1011

9574
Ap 6/1
Im 8/6
978 pt 1

GOVERNMENT
Storage

MAR 24 1977
KANSAS STATE UNIVERSITY

DOCUMENTS
MAR 24 1977
FARRELL LIBRARY
KANSAS STATE UNIVERSITY

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1978

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

NINETY-FIFTH CONGRESS

FIRST SESSION

KSU LIBRARIES
A11900 223664

UBCOMMITTEE ON THE DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES

SIDNEY R. YATES, Illinois, *Chairman*

N McKAY, Utah
RENCE D. LONG, Maryland
NK E. EVANS, Colorado
N P. MURTHA, Pennsylvania
ERT B. DUNCAN, Oregon
MAN D. DICKS, Washington
IE L. WHITTEN, Mississippi

JOSEPH M. McDADE, Pennsylvania
RALPH S. REGULA, Ohio
WILLIAM L. ARMSTRONG, Colorado

FREDERICK G. MOHRMAN and BYRON S. NIELSON, *Staff Assistants*

PART 1—Justification Material

	Page
Bureau of Land Management	1
Office of Water Research and Technology	203
Bureau of Outdoor Recreation	241
Fish and Wildlife Service	303
National Park Service	487
Geological Survey	663
Mining Enforcement and Safety Administration	829
Bureau of Mines	907
Territorial Affairs	1079
Office of the Solicitor	1401
Office of the Secretary	1433
Permanents	1535

Printed for the use of the Committee on Appropriations

AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1978

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

NINETY-FIFTH CONGRESS

FIRST SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES

SIDNEY R. YATES, Illinois, *Chairman*

GUNN McKAY, Utah
CLARENCE D. LONG, Maryland
FRANK E. EVANS, Colorado
JOHN P. MURTHA, Pennsylvania
ROBERT B. DUNCAN, Oregon
NORMAN D. DICKS, Washington
JAMIE L. WHITTEN, Mississippi

JOSEPH M. McDADE, Pennsylvania
RALPH S. REGULA, Ohio
WILLIAM L. ARMSTRONG, Colorado

FREDERICK G. MOHRMAN and BYRON S. NIELSON, *Staff Assistants*

PART 1—Justification Material

	Page
Bureau of Land Management	1
Office of Water Research and Technology	203
Bureau of Outdoor Recreation	241
Fish and Wildlife Service	303
National Park Service	487
Geological Survey	663
Mining Enforcement and Safety Administration	829
Bureau of Mines	907
Territorial Affairs	1079
Office of the Solicitor	1401
Office of the Secretary	1433
Permanents	1535

Printed for the use of the Committee on Appropriations

U.S. GOVERNMENT PRINTING OFFICE

83-561 O WASHINGTON : 1977

COMMITTEE ON APPROPRIATIONS

GEORGE H. MAHON, Texas, *Chairman*

JAMIE L. WHITTEN, Mississippi
ROBERT L. F. SIKES, Florida
EDWARD P. BOLAND, Massachusetts
WILLIAM H. NATCHER, Kentucky
DANIEL J. FLOOD, Pennsylvania
TOM STEED, Oklahoma
GEORGE E. SHIPLEY, Illinois
JOHN M. SLACK, West Virginia
JOHN J. FLYNT, JR., Georgia
NEAL SMITH, Iowa
ROBERT N. GIAIMO, Connecticut
JOSEPH P. ADDABBO, New York
JOHN J. McFALL, California
EDWARD J. PATTEN, New Jersey
CLARENCE D. LONG, Maryland
SIDNEY R. YATES, Illinois
FRANK E. EVANS, Colorado
DAVID R. OBEY, Wisconsin
EDWARD R. ROYBAL, California
LOUIS STOKES, Ohio
GUNN McKAY, Utah
TOM BEVILL, Alabama
BILL CHAPPELL, Florida
BILL D. BURLISON, Missouri
BILL ALEXANDER, Arkansas
EDWARD I. KOCH, New York
YVONNE BRATHWAITE BURKE, California
JOHN P. MURTHA, Pennsylvania
BOB TRAXLER, Michigan
ROBERT B. DUNCAN, Oregon
JOSEPH D. EARLY, Massachusetts
MAX BAUCUS, Montana
CHARLES WILSON, Texas
LINDY (MRS. HALE) BOGGS, Louisiana
ADAM BENJAMIN, JR., Indiana
NORMAN D. DICKS, Washington

ELFORD A. CEDERBERG, Michigan
ROBERT H. MICHEL, Illinois
SILVIO O. CONTE, Massachusetts
JOSEPH M. McDADE, Pennsylvania
MARK ANDREWS, North Dakota
JACK EDWARDS, Alabama
ROBERT C. McEWEN, New York
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
WILLIAM L. ARMSTRONG, Colorado
RALPH S. REGULA, Ohio
CLAIR W. BURGENER, California
GEORGE M. O'BRIEN, Illinois
VIRGINIA SMITH, Nebraska

KEITH F. MAINLAND, *Clerk and Staff Director*

STAFF ASSISTANTS

Donna M. Brother
Gordon E. Casey
Nicholas G. Cavarocchi
Donald L. Denton
Jimmy R. Fairchild
Robert B. Foster
John M. Garrity
Aubrey A. Gunnels
Margaret J. Hansen
Charles G. Hardin
F. Michael Hugo
Thomas J. Kingfield
Robert L. Knisely
Edward E. Lombard
Richard N. Malow
William A. Marinelli
Americo S. Miconi
Dempsey B. Mizelle
Frederick G. Mohrman
James A. Morrill
Enid Morrison
Peter J. Murphy, Jr.
Henry A. Neil, Jr.
Robert C. Nicholas III
Byron S. Nielson
David R. Olson
John G. Osthaus
Frederic F. Pfluger
John G. Plashal
Edwin F. Powers
Samuel R. Preston
Donald E. Richbourg
Earl C. Silsby
G. Homer Skarin
C. William Smith
Donald P. Smith
Charles W. Snodgrass
Hunter L. Spillan
Michael A. Stephens
Paul E. Thomson
George A. Urian
Derek J. Vander Schaaf
Michael S. Weinberger
J. David Willson

Surveys and Investigations

C. R. Anderson, *Chief*
David A. Schmidt, *Director*
James B. Hyland, *Assistant Director*
Anthony J. Gabriel, *Assistant Director*

Note.—The Surveys and Investigations supervisory staff is supplemented by selected personnel borrowed on a reimbursable basis for varying lengths of time from various agencies to staff up specific studies and investigations. The current average annual full-time personnel equivalent is approximately 65.

Administrative Support

Gerard J. Chouinard
Paul V. Farmer
Sandra A. Gilbert
Robin A. Harrold
Patricia A. Kemp
Valrie L. Lake
Jeni L. Leasor
Anna L. Manning
Marcia L. Matts
Frances May
Genevieve A. Mealy
Lawrence C. Miller
Toni Perla
Kitty L. Ray
Dale M. Shulaw
Austin G. Smith
Christine Stockman
Ann M. Stull
Betty Lou Taylor
Randolph Thomas
Susan A. Weaver
Ellen C. Zacofsky

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1978

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

BUREAU OF LAND MANAGEMENT

HIGHLIGHT STATEMENT

In 1776, the Continental Congress authorized the raising of a National Army to fight the War for Independence. As payment for military service the Congress promised land to its soldiers; and in so doing, set into motion events which led to the cession of land from the several States to the Federal Government and spawned the concept of the "public lands".

Over the course of history the public lands have served the Nation well, contributing their wealth and riches to the common economic and social good. After two centuries of acquisition, disposal, and reservation, much of this land remains; it is as much a part of the American present - and future - as it was in 1776. The public lands now comprise some 470 million acres, 20 percent of the Nation's land area.

In 1976, our Bicentennial Year, the Congress passed major new legislation, the Federal Land Policy and Management Act (Public Law 94-579), providing a new comprehensive multiple use charter for the public lands, under BLM stewardship, to help satisfy the many demands and expectations of a diverse National population. Several new programs reflected in this budget are to implement provisions of this and other recent legislation including the Alaska Native Claims Settlement Act amendments of 1976, (Public Law 94-204), Naval Petroleum Reserves Production Act of 1976 (Public Law 94-258), the Federal Coal Leasing Amendments Act (Public Law 94-377), and the Act which provides for in lieu of tax payments to counties and similar units of local government (Public Law 94-565).

In an effort to provide for some of the more urgent mandates required by this recent legislation, a major reprogramming action is being proposed in FY 1977. Involving shifts of both positions and funds, the redirection of $4.1 million and 43 positions out of certain programs into others is displayed in this budget on page 15. The FY 1978 budgetary changes are predicated on a revised base as adjusted by this reprogramming proposal.

BUDGET REQUEST

MANAGEMENT OF LANDS AND RESOURCES:

Specifically, the Budget provides a total of $4,550,000 in increases for Federal Land Policy and Management Act activities including:

- $500,000 to initiate a review of all existing public land withdrawals and making appropriate recommendations for changes to the Congress;
- $400,000 for establishing District grazing advisory boards;
- $1,200,000 for interim management activities to protect the fragile resources of the California Desert;
- $1,200,000 to accelerate the review of all existing primitive, natural, and roadless areas for possible wilderness designations in accordance with the schedule in the Act;
- $1,000,000 for a long range study of public land management objectives, programs, and regulatory requirements under provisions of the new Act;
- $250,000 for law enforcement training and contracts with state and local agencies.

A total of $4,225,000 in increases is requested in this budget for lands and realty and cadastral survey activities to implement the 1976 Alaska Native Claims Act amendments and reduce the growing backlog of Claims Act cases. A 1977 supplemental of $2,400,000 is included in the Budget for the same purpose.

Another major consideration and objective in formulating the Bureau's 1978 Budget has been to continue the thrust of recent years toward maximizing production of public land energy resources with appropriate environmental safeguards.

- Second year requirements for the Federal coal leasing program necessitate a major increase of $6,100,000 for environmental impact statement preparation, reclamation potential studies, and lease scheduling activities;

- An additional $2,000,000 is needed for Fiscal Year 1978 for ongoing Outer Continental Shelf environmental baseline and monitoring studies;

- Also in the energy area, $1,500,000 is requested for surface management and land use planning for the National Petroleum Reserve Alaska. Jurisdiction over the reserve is being transferred from the Department of the Navy to Interior as provided in Public Law 94-258.

Other energy and nonenergy minerals program increases requested include:

- $660,000 to accommodate increased onshore oil and gas leasing activities;

- $880,000 to reduce existing mineral patent applications backlogs, including contested oil shale patent applications, and

- $200,000 for phosphate and potash leasing activities in New Mexico and Florida.

For many years, BLM has been a leader in developing and utilizing manpower saving automated data processing techniques for administrative functions such as financial and personnel management. Use of ADP technology for resources programs has not kept pace with administrative applications even though land use planning and environmental analysis activities have accounted for a quantum increase in the amount of information available about the land and its resources. To implement a recently completed plan for more efficient storage and use of all types of resource data, an increase of $2,960,000 is proposed.

Aside from new legislation, energy program, and data management requirements, budget increases for management functions are targeted at two critical problem areas including:

- The urgent need for preservation of Eastern States land records (+$200,000), and

- The need for expanded cadastral survey support to the accelerated program for public domain timber sales (+$440,000).

Nonprogrammatic support activities requiring increases are general administration (a net increase of $170,000); employee injury compensation payments ($382,000), and October 1976 pay raise annualization requirements ($392,000).

ACQUISITION, CONSTRUCTION AND MAINTENANCE:

The budget for acquisition, construction and maintenance activities in two appropriations is increased significantly from Fiscal Year 1977 levels. Construction requirements for needed buildings including office facilities and warehouses are budgeted at $3,848,000, up $933,000 from Fiscal Year 1977. In the recreation construction program, an increase of $694,000 is attributable to construction of a second California Desert Way Station at Yuha. Necessary building and recreation maintenance program increases total $596,000. Road construction, road maintenance, and acquisition activities are continued at the 1977 level totalling $7,392,000.

PAYMENT IN LIEU OF TAXES:

The request for the Payment in Lieu of Taxes legislation is $100,000,000, the best current estimate of funding requirements pending necessary acreage verifications and reports from state governments on pass through of certain existing payments which impact the in lieu of taxes entitlement formula.

RANGE IMPROVEMENT FUND:

The new Federal Land Policy and Management Act formula which provides for appropriation of fifty percent of all grazing receipts, accounts for an increase of $1,380,000 to be used for construction and maintenance of range improvements. No increase in grazing fees is scheduled for calendar year 1977.

OREGON AND CALIFORNIA GRANT LAND FUND:

In the Oregon and California Grant Lands fund, an obligation program of $40.2 million is proposed, and new budget authority to be derived from receipts is estimated at $45 million. The obligation program level is a net decrease of $3.8 million from FY 1977. Included in the decrease is $4,390,000 in the Acquisition and Construction activity primarily reflecting a reduction of the amount provided for construction of a new district office in Medford, Oregon in Fiscal Year 1977. A reduction of $3,100,000 in the O&C road maintenance program is also proposed and is attributable to a one-time Fiscal Year 1977 requirement to pay the Federal Highway Administration for the undepreciated value of road maintenance equipment transferred to BLM. Timber sale planning and forest development work needed to sustain the O&C lands allowable cut accounts for requested increases totalling $3,690,000.

WORKING CAPITAL FUND:

A working capital fund has been authorized for BLM by the Federal Land Policy and Management Act. $2,000,000 is included in this budget as initial capital for this new fund.

SERVICE CHARGES, DEPOSITS AND FORFEITURES:

Primarily as a result of the Federal Land Policy and Management Act of 1976, the Fiscal Year 1978 Budget reflects numerous changes in the BLM appropriation account and activity structure. In addition to the Working Capital Fund, a new receipt limitation appropriation, "Service Charges, Deposits, and Forfeitures" is proposed. This account (an estimated $11,250,000 in Fiscal Year 1978) will use appropriated receipts to finance work necessitated by cost recoverable applications for rights-of-ways including monitoring operational activities of the Trans-Alaska Pipeline. Reductions are provided in the "Management of Lands and Resources" appropriation for these transferred functions. The new appropriation also makes available receipts from timber trespass and bond forfeitures, and receipts for reclamation of community pits and common material sites. These later activities were previously accommodated under the "Expenses, Public Land Administration Act" permanent appropriation.

PUBLIC LAND DEVELOPMENT ROADS AND TRAILS:

The Budget also proposes merging the old "Construction and Maintenance", and "Public Lands Development Roads and Trails" accounts into a single new appropriation for "Acquisition, Construction, and Maintenance". This consolidation is made possible by the inclusion of new road construction and land acquisition authority in the Federal Land Policy and Management Act. It is no longer necessary to rely on Federal Aid Highway Act authority for public domain lands road construction and to have a separate appropriation for that function.

TRUST FUNDS:

A new trust fund, the "Land and Resources Management Trust Fund" reflects consolidation of previously separate trust funds for contributions and public survey work expenses. Appropriation language is proposed for the new fund primarily to make available donations for surveys and other costs incidental to conveying omitted lands to states and private individuals as authorized by Section 211 of the Federal Land Policy and Management Act.

ACTIVITY CHANGES

The activity structures in "Management of Lands and Resources" and in "Oregon and California Grant Lands" have been somewhat modified in this budget. In the first instance, new subactivities are added and activity titles modified to identify law enforcement and data management functions. Oregon and California Grant Lands activities have been retitled to conform with the activity titles for similar functions in other appropriations.

REVENUES

The estimated revenue to be generated by BLM activities including OCS leasing, other mineral leasing, timber sales, land sales, etc. in Fiscal Year 1978 is $3.755 billion.

STATUS OF AUTHORIZATIONS

In past years, the authority for virtually all BLM activities was contained in legislation such as the Taylor Grazing Act which provided permanent authorizations for specific activities with no dollar limitation. Under the Federal Land Policy and Management Act of 1976 (Section 318), an additional authorization for Fiscal Year 1978 only is provided for "such sums as may be necessary to carry out the purposes and provisions of this Act ....". However, this same section requires that beginning with Fiscal Year 1979, BLM must secure dollar authorizations for all its programs except firefighting, permanent and trust appropriations, appropriations based upon receipts, and reimbursements. A request for the authorization of appropriations for all nonexcluded programs for Fiscal Years 1979 through 1982 will be submitted to the Congress by May 15, 1977 as required by the new Act.

None of the programs or activities in the Fiscal Year 1978 request are pending enactment of any new authorizing legislation.

PRODUCTIVITY

BLM has a continuing management improvement effort underway to reallocate scarce funds and positions enabling it to meet some existing and emerging priorities. Examples of accomplishments include:

- Organizational changes including consolidation of two service centers into one, district office consolidations in several western states, and establishment of area offices closer to the lands under management has permitted the redirection of the equivalent of 230 permanent full-time positions to more direct and productive work.

- Technological investments directed to increase productivity have produced an operational cadastral survey system. Employing the principles of inertial guidance, new electronic survey systems are expected to ultimately increase survey production in Alaska three-fold over more conventional techniques. The adaptation of a lightning strike detection system is another innovation used by BLM which will reduce wildland firefighting costs by directing fire surveillance aircraft and reducing initial fire attack response time. Depending on the severity of a fire season, this relatively inexpensive improvement can result in millions of dollars of fire-related savings and lead to a substantial reduction in acreages lost to lightning caused fires.

Conclusion

BLM is a diverse agency and in a state of rapid evolution. No longer oriented solely to land disposal, mining, grazing, and timber production, its concerns have, of necessity, expanded into other fields - archeology, wildlife, hydrology, geology, air quality, and, socio-economics to name a few. This diversity is essential to the total and balanced management of the lands and resources under its jurisdiction.

This FY 1978 budget request will directly impact the management and administration of 20% of the Nation's surface, most of the Continental Shelf, and all subsurface rights vested in Federal ownership. In all, a 2.1 billion acre estate, of surface, subsurface, and submerged land, is under some form of BLM stewardship; encompassing an area as large as the entire United States.

Requested funds and manpower will aid in reversing a declining trend in resource conditions where it is occurring on a wide spread basis, and will improve the productivity of these lands for present and future use. These lands will yield goods and services to the economy, which in FY 1978 will have a sale value of $3.7 billion dollars. Yet, the value of such materials as oil and gas, coal, timber, and livestock forage, is only a part of the worth of these lands to society. This budget also recognizes the intangible attributes which are also of direct concern to much of the American public; safety of the visitors to the lands, enhanced recreation and wildlife pursuits, aesthetics and wilderness, preservation of relics of man's past, clean air and water do not produce revenue but are very much a part of total value this estate has to offer.

Adequate management input, balanced to favor all land values, will yield the greatest return to the Nation over the long run.

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

Budget Authority
(in thousands of dollars)

Account & Functional Code		1976 Actual	1977 Estimate	1978 Estimate
Federal Funds				
General & Special Funds:				
Management of Lands & Resources	302	$ 215,463	$ 228,737	$ 237,711
Supplementals			37,400 a/	
Acquisition, Construction & Maintenance	302	4,504 b/	- 3,740 c/	17,558
Payments in Lieu of Taxes	852	--	100,000 a/	100,000
Oregon & California Grant Lands (indefinite special fund)	302	25,104	41,250	45,000
Range Improvements (indefinite special fund)	302	5,435	7,370	8,750
Recreation Development & Operation of Recreation Facilities (indefinite special fund)	302	300	300	300
Service Charges, Deposits, and Forfeitures (indefinite special fund)	302	--	--	11,250
Permanent Appropriations (permanent indefinite)	999	174,443	140,800	266,150
Working Capital Fund	302	--	--	2,000
Total Federal Funds, BLM		425,249	552,117	688,719
BLM Trust Funds (indefinite)	302	421	700	700
Total Federal & Trust Funds		425,670	552,817	689,419

a/ Proposed for later transmittal under existing legislation. The Management of Lands and Resources supplemental request for 1977 totals $37,400,000, of which $20,000,000 is for transfer to the Land and Water Conservation Fund to repay amounts temporarily transferred to BLM in the Transition Quarter to cover excess firefighting obligations.

b/ Includes appropriations of $9,404 and recissions of $4,900.

c/ Includes appropriations of $10,160 and recissions of $13,900.

RECEIPTS BY SOURCE

The following table shows actual receipts of the Bureau of Land Management for Fiscal Years 1974, 1975, and 1976, and estimated receipts for the Transition Quarter, and Fiscal Years 1977 and 1978.

	Actual 1974	Actual 1975	Actual 1976	Actual TQ	Estimate 1977	Estimate 1978
Sales, Public Lands and Materials.....	$ 2,056,000	$ 20,281,000	$ 5,761,000	$ 1,491,000	$ 3,200,000	$ 3,400,000
Fees and Commissions.....	12,460,000	18,275,000	19,357,000	6,158,000	20,300,000	22,000,000
Mineral Leasing a/.....	271,722,000	329,669,000	347,690,000	71,480,000	350,700,000	404,200,000
Mineral Leasing, Outer Continental Shelf....	6,748,394,000	2,427,965,000	2,662,448,000	1,311,119,000	2,600,000,000 b/	3,100,000,000 b/
Grazing Fees.....	11,751,000	11,659,000	16,241,000	1,069,000	17,500,000	17,500,000
Right-of-Way Leases....	527,000	550,000	700,000	155,000	750,000	750,000
Timber Sale.....	127,775,000	108,155,000	130,841,000	67,008,000	179,500,000	196,500,000
Miscellaneous Receipts.	1,197,000	3,060,000	8,892,000	1,676,000	10,350,000	10,450,000
Total	$7,175,882,000	$2,919,614,000	$3,191,930,000	$1,460,156,000	$3,182,300,000	$3,754,800,000

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

b/ Despite a critical need for additional oil and gas, the receipt level for FY 1977 and FY 1978 will depend upon the anticipated impact of each proposed sale upon the environment as well as the continuing safe operation of existing production facilities.

PAYMENT OF BUREAU OF LAND MANAGEMENT RECEIPTS TO STATES
FY 1976

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		18,862				18,862
Alaska	239,472	4,299,455				4,538,927
Arizona	1,724	234,687	34,705	75,376		346,492
Arkansas		104,890				104,890
California	367,488	6,521,766	6,794	77,312		6,973,360
Colorado	4,519	34,519,845	38,257	31,037		34,593,658
Florida		17,780				17,780
Idaho	12,502	1,004,381	71,283	23,926		1,112,092
Kansas		246,799		52		246,851
Louisiana		185,458				185,458
Michigan		8,901				8,901
Mississippi		10,385				10,385
Montana	2,437	4,486,109	49,135	91,843	257,711 a/	4,887,235
Nebraska	(9)	41,810		598		42,399
Nevada	56,743	757,181	121,491	17,241		952,656
New Mexico	5,711	25,633,402	62,938	136,585	15,125 a/	25,853,761
North Dakota		574,527		4,863		579,390
Oklahoma		324,754		288		325,042
Oregon	200,642	33,018	63,672	32,661	50,553,654 b/	50,883,647
South Dakota	219	303,700		39,696		343,615
Utah	147,305	5,512,655	66,013		1,915 a/	5,727,888
Washington	905	471		15,755		17,131
Wyoming	5,285	34,768,272	85,586	227,168		35,086,311
TOTAL	1,044,943	119,609,108	599,874	774,401	50,828,405	172,856,731

a/ Executive Order 10787, November 6, 1958, and 10890, October 27, 1960, from grazing and mineral receipts, L.U. lands.
b/ From "O&C" Lands, $49,347,960; Coos Bay Wagon Road Lands $1,205,694.

BLM-8

PAYMENT OF BUREAU OF LAND MANAGEMENT RECEIPTS TO STATES
Transition Quarter

State	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		12,667				12,667
Alaska	33,187	1,006,969				1,040,156
Arizona	2,385	160,944	40,471	91,803		295,603
Arkansas		61,803				61,803
California	44,212	4,056,301	10,583	88,941		4,200,037
Colorado	6,455	29,790,961	46,378	39,688		29,883,482
Florida		1,952				1,952
Idaho	34,403	243,226	101,362	36,129		415,120
Kansas		133,921		29		133,950
Louisiana		270,628				270,628
Michigan		9,047				9,047
Mississippi		3,381				3,381
Montana	1,784	2,555,860	67,355	115,954		2,740,953
Nebraska		26,654		1,020		27,674
Nevada	75,457	267,498	178,613	26,984		548,552
New Mexico	29,633	15,491,012	131,023	186,828		15,838,496
North Dakota		405,811		7,286		413,097
Oklahoma		174,397		120		174,517
Oregon	291,229	26,536	80,424	42,208	59,450,248 a/	59,890,645
South Dakota	20	107,631		57,143		164,794
Utah	21,448	3,140,949	80,864			3,243,261
Washington	17,494	452		21,201		39,147
Wyoming	6,574	20,229,674	109,273	303,834		20,649,355
TOTAL	564,281	78,178,274	846,346	1,019,168	59,450,248	140,058,317

a/ From "O&C" Lands, $59,120,860; Coos Bay Wagon Road Lands $329,388

BUREAU OF LAND MANAGEMENT
MANAGEMENT OF LANDS AND RESOURCES

Analysis by Activities
(Direct Appropriations)

	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase(+) or Decrease(-) 1978 Compared with 1977	Page Reference
1. Energy and Minerals Management	$72,543,000	$87,814,000	$98,295,000	$+10,481,000	21
2. Lands and Realty Management	36,269,000	35,779,000	24,708,000	-11,071,000	42
3. Renewable Resources Development, Protection and Management	54,656,000	60,877,000	63,974,000	+ 3,097,000	52
4. Planning and Data Management	7,376,000	20,133,000	24,133,000	+ 4,000,000	77
5. Cadastral Survey	14,782,000	15,694,000	17,724,000	+ 2,030,000	86
6. Firefighting and Rehabilitation	25,250,000	4,750,000	4,750,000	--	92
7. Administration and Enforcement	4,587,000	3,690,000	4,127,000	+ 437,000	94
	215,463,000	228,737,000	237,711,000	+ 8,974,000	

83-561 O - 77 - 2

BUREAU OF LAND MANAGEMENT
MANAGEMENT OF LANDS AND RESOURCES

Analysis by Activity
(Direct Appropriations)

	FY 1976 Amount Available	- Fiscal Year 1977 - Total Appropriation	Pay Cost Supplemental	Amount Available
1. Energy and Minerals Management	$72,543,000	$86,672,000	$1,142,000	$87,814,000
2. Land and Realty Management	36,269,000	34,703,000	1,076,000	35,779,000
3. Renewable Resources Development, Protection and Management	54,656,000	59,260,000	1,617,000	60,877,000
4. Planning and Data Management	7,376,000	19,675,000	458,000	20,133,000
5. Cadastral Survey	14,782,000	15,263,000	431,000	15,694,000
6. Firefighting and Rehabilitation	25,250,000	4,750,000	--	4,750,000
7. Administration and Enforcement	4,587,000	3,506,000	184,000	3,690,000
	215,463,000	223,829,000	4,908,000	228,737,000

MANAGEMENT OF LANDS AND RESOURCES

Analysis by Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Authorized Perm. Positions	1978 Estimates	Authorized Perm. Positions	Increase (+) or Decrease(-) 1978 Compared with 1977 Dollars	Positions
1. Energy and Minerals Management							
A. Energy Minerals - Onshore	$14,390,000	$25,724,000	612	$33,069,000	673	+$7,345,000	+ 61
B. Energy Minerals - Offshore	55,060,000	56,550,000	232	58,581,000	232	+ 2,031,000	--
C. Non-Energy Minerals - Onshore	3,093,000	5,540,000	190	6,645,000	206	+ 1,105,000	+ 16
Total	72,543,000	87,814,000	1,034	98,295,000	1,111	+10,481,000	+ 77
2. Lands and Realty Management							
A. Lands and Realty Operations	27,424,000	28,518,000	946	24,708,000	856	- 3,810,000	- 90
B. Trans-Alaska Pipeline	8,845,000	7,261,000	46	--	--	- 7,261,000	- 46
Total	36,269,000	35,779,000	992	24,708,000	856	-11,071,000	-136
3. Renewable Resources Development, Protection and Management							
A. Forest Management	6,087,000	6,041,000	184	5,979,000	180	- 62,000	- 4
B. Range Management	20,752,000	23,573,000	565	23,933,000	557	+ 360,000	- 8
C. Recreation Management	4,995,000	6,689,000	165	9,076,000	169	+ 2,387,000	+ 4
D. Soil, Water, Air Management	9,966,000	10,889,000	264	11,283,000	262	+ 394,000	- 2
E. Wildlife Habitat Management	4,656,000	5,381,000	119	5,386,000	117	+ 5,000	- 2
F. Fire Management	8,200,000	8,304,000	212	8,317,000	207	+ 13,000	- 5
Total	54,656,000	60,877,000	1,509	63,974,000	1,492	+ 3,097,000	- 17
4. Planning and Data Management							
A. Planning for Multiple Use	7,376,000	10,422,000	281	11,426,000	281	+ 1,004,000	--
B. Data Management	--	9,711,000	153	12,707,000	167	+ 2,996,000	+ 14
Total	7,376,000	20,133,000	434	24,133,000	448	+ 4,000,000	+ 14

MANAGEMENT OF LANDS AND RESOURCES (continued)

Analysis by Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Perm. Positions	1978 Estimates	Perm. Positions	Increase(+) or Decrease(-) 1978 Compared with 1977 Dollars	Positions
5. Cadastral Survey							
A. Alaska Surveys	$7,816,000	$8,419,000	80	$9,988,000	82	+$1,569,000	+ 2
B. Lower 48 Surveys	6,966,000	7,275,000	323	7,736,000	328	+ 461,000	+ 5
	14,782,000	15,694,000	403	17,724,000	410	+ 2,030,000	+ 7
6. Firefighting and Rehabilitation							
A. Firefighting	24,650,000	4,150,000	--	4,150,000	--	--	--
B. Rehabilitation	600,000	600,000	--	600,000	--	--	--
Total	25,250,000	4,750,000	--	4,750,000	--	--	--
7. Administration and Enforcement							
A. Law Enforcement	--	361,000	10	612,000	10	+ 251,000	--
B. General Administration	4,587,000	3,329,000	162	3,515,000	169	+ 186,000	+ 7
Total	4,587,000	3,690,000	172	4,127,000	179	+ 437,000	+ 7
GRAND TOTAL	215,463,000	228,737,000	4,544	237,711,000	4,496	+ 8,974,000	- 48

MANAGEMENT OF LANDS AND RESOURCES
Analysis by Activities and Subactivities of Proposed Changes in FY 1977 Appropriation

Activity/Subactivity	Appropriation FY 1977	Adj. Estab. Data Mgmt. Subactivity	Federal Land Policy & Management Act P.L. 94-579 Law Enforcement Restructure	Federal Land Policy & Management Act P.L. 94-579 Reprogramming 1/	Oil Shale Patent Processing	FY 1977 Proposed Pay Cost Supplemental	Revised FY 1977 Total as shown in President's Budget
Energy & Minerals Management	(89,426,000)	(-$1,654,000)		(-$1,100,000)		(+$1,142,000)	($87,814,000)
Energy Minerals-Onshore	25,698,000	-860,000		+400,000	-$200,000	+686,000	25,724,000
Energy Minerals-Offshore	58,417,000	-617,000		-1,500,000		+250,000	58,550,000
Non-Energy Minerals-Onshore	5,311,000	-177,000		--	+200,000	+206,000	5,540,000
Land & Realty Management	(37,044,000)	(-1,441,000)		(-900,000)		(+1,076,000)	(35,779,000)
Lands & Realty Operation	29,188,000	-1,346,000		-400,000		+1,076,000	28,518,000
Trans-Alaska Pipeline	7,856,000	-95,000		-500,000			7,261,000
Renewable Resources Development, Protection, & Management	(63,302,000)	(-3,592,000)	(-$350,000)	(-100,000)		(+1,617,000)	(60,877,000)
Forest Management	7,168,000	-1,131,000		-200,000		+204,000	6,041,000
Range Management	24,878,000	-1,124,000	-200,000	-600,000		+619,000	23,573,000
Recreation Management	6,153,000	-348,000	-75,000	+800,000		+159,000	6,689,000
Soil, Water & Air Management	11,063,000	-356,000		-100,000		+282,000	10,889,000
Wildlife Habitat Management	5,574,000	-245,000	-75,000	--		+127,000	5,381,000
Fire Management	8,466,000	-388,000		--		+226,000	8,304,000
Planning & Data Management	(8,645,000)	(+8,930,000)		(+2,100,000)		(+458,000)	(20,133,000)
Planning for Multiple Use	8,645,000	-617,000		+2,100,000		+294,000	10,422,000
Data Management		+9,547,000				+164,000	9,711,000
Cadastral Survey	(15,873,000)	(-610,000)				(+431,000)	(15,694,000)
Alaska Survey	8,666,000	-333,000				+86,000	8,419,000
Lower 48 Survey	7,207,000	-277,000				+345,000	7,275,000
Firefighting & Rehabilitation	(4,750,000)	--					(4,750,000)
Firefighting	4,150,000	--					4,150,000
Rehabilitation	600,000	--					600,000
Administration & Enforcement	(4,789,000)	(-1,633,000)	(+350,000)			(+184,000)	(3,690,000)
Administration	4,789,000	-1,633,000				+173,000	3,329,000
Enforcement			+350,000			+11,000	361,000
Total Management of Lands & Resources	$223,829,000	--	--	--	--	$4,908,000	$228,737,000

1/ Details provided on following page.

DETAIL OF FY 1977 REPROGRAMMING

In an effort to accomodate Fiscal Year 1977 new priority funding requirements associated with recent legislation including:

- The Federal Land Policy and Management Act (P.L. 94-579), approved October 21, 1976

- The Naval Petroleum Reserve Production Act (P.L. 94-258), approved April 5, 1976.

- The 1976 Amendment to the Wild and Scenic Rivers Act (P.L. 94-486), approved October 12, 1976.

The following reprogramming actions are proposed:

- A decrease of $1,500,000 in Outer-Continental Shelf leasing to finance the 1977 requirements for developing a land use plan (+$1,000,000) and surface management (+$500,000) of the National Petroleum Reserve-Alaska. The OCS decrease is based on deferring the start of a baseline study for the Northern California-Oregon-Washington Pacific OCS area where no sales are currently planned.

- A decrease of $700,000 consisting of $200,000 in forest management and $500,000 in energy related lands casework to finance $700,000 needed in FY 1977 for review of existing primitive and natural areas for possible wilderness designation as required by P.L. 94-579.

- A decrease of $700,000 consisting of $600,000 in energy related lands casework and $100,000 from the geothermal steam program to finance $700,000 for first year costs of mining claim recordation as mandated by P.L. 94-579.

- Decreases of $600,000 in range management and $500,000 in Trans-Alaska pipeline inspection to finance $1,100,000 for accelerated land use planning for the California Desert in accordance with the 1980 deadline for a Desert management plan contained in P.L. 94-579.

- A decrease of $100,000 in soil, water and air management to finance development of a management plan for the Upper Missouri Wild and Scenic River.

- In addition to the funds reprogrammed above, the following position reprogramming occured in order to provide personnel for the increased programs: a) Geothermal (-2), Oil Shale (-1), Oil and Gas (-13), and Material Sales/ Minerals Leasing (-4), to staff Mining Claim recordation (+12), NPRA Management (+5), and NPR-A planning (+3); b) energy related lands casework (-8), and forest management (-7), to staff wilderness review (+15); c) range management (-5), to staff California Desert Planning (+5); and d) planning for multiple use (-3),to staff the Upper Missouri Wild and Scenic River program (+3).

Budgetary changes in FY 1978 are predicated on a FY 1977 base as adjusted by this proposed reprogramming.

BUREAU OF LAND MANAGEMENT

Management of Lands and Resources

Appropriation, 1976	$189,582,000	
Pay act supplemental	2,871,000	
Fire supplemental	20,500,000	
SOHIO Oil Pipeline and Arctic Gas Pipeline Supplemental	2,510,000	
Total Appropriation, 1976		$215,463,000
Appropriation, 1977	223,829,000	
Proposed pay cost supplemental (October 1976 pay)	4,908,000	
Total available, 1977		228,737,000 1/

SUMMARY OF INCREASES AND DECREASES, 1978

	Base for 1978	Increase/Decrease 1978
ENERGY AND MINERALS MANAGEMENT		
Energy Minerals, Onshore		
- Oil and Gas - To provide for surface management and protection in the National Petroleum Reserve - Alaska [$500,000]; and accommodate the increased workload in lease development related activities, including access to leases and considering visual resources in management decisions [$600,000]	$ 8,561,000	+$1,160,000
- Coal - Accelerate regional coal environmental impact statements effort [$2,900,000]; assess reclamation potential of specific lands [$2,700,000]; and implement the lease schedule phase of the energy minerals activity recommendation system [$500,000]	14,081,000	+ 6,100,000
- Geothermal -	2,474,000	---
- Oil Shale -	608,000	---
Energy Minerals, Offshore		
To fund environmental baseline and monitoring study requirements in FY 1978	56,550,000	+ 2,000,000
Nonenergy Minerals, Onshore		
- Mineral Materials -	1,929,000	---

1/ Does not include proposed program supplemental of $35,000,000 for firefighting, and $2,400,000 for Alaska Native Claims Settlement Act implementation.

	Base for 1978	Increase/Decrease 1978	
- Mineral Leasing - To provide for phosphate resource data and facilitate potash leasing and operational activities	$1,998,000	+$200,000	
-Mining Law Administration - To eliminate mineral patent application backlog by 1985 and to process oil shale patent applications under expected court order	1,613,000	+880,000	
Pay and Personnel Costs To annualize the October 1976 pay raise for civilian employees	--	+141,000	+$10,481,000
LANDS AND REALTY MANAGEMENT			
Land and Realty Operations			
- Status and Records Management - To provide for the installation of a system for preserving and managing Eastern States land records	7,891,000	+200,000	
- Energy Casework - To transfer the cost recoverable portion of the energy casework function to the Service Charges, Deposits and Forfeiture receipt limitation appropriation as provided by the Federal Land Policy and Management Act (P.L. 94-579)	12,751,000	- 7,249,000	
- Non-Energy Related Casework - To implement provisions of the Alaska Native Claims Settlement Act amendments of 1976 and related new regulations	7,876,000	+2,665,000	
- Withdrawal Review - To provide the initial funding for reviewing all existing land withdrawals as required by the Federal Land Policy and Management Act (P.L. 94-579)	--	+500,000	
Trans-Alaska Pipeline			
- Construction - To phase out monitoring and surveillance of pipeline construction	4,110,000	- 4,110,000	

	Base for 1978	Increase/Decrease 1978	
- Post Construction - To transfer post construction monitoring to the Service Charges, Deposits and Forfeiture receipt limit appropriation as provided by the Federal Land Policy and Management Act (P.L. 94-579)	$3,151,000	-$3,151,000	
Pay and Personnel Costs To annualize the October 1976 pay raise for civilian employees	--	+74,000	-$11,071,000
RENEWABLE RESOURCE DEVELOPMENT, PROTECTION, AND MANAGEMENT			
Forest Management To transfer access acquisition functions to the Acquisition, Construction and Maintenance Appropriation	5,041,000	-73,000	
Range Management	23,573,000		
(1) To transfer access functions Acquisition, Construction and Maintenance Appropriation	--	-74,000	
(2) Establish district grazing advisory boards as authorized by the Federal Land Policy and Management Act (P.L. 94-579)	--	+400,000	
Recreation Resource Management	6,689,000	--	
(a) To transfer access functions to the Acquisition, Construction and Maintenance Appropriation		-22,000	
(b) To accomplish recreation visitor management and to protect the resources in the California Desert		+1,200,000	
(c) To accelerate the review of all existing primitive and natural areas and roadless areas on public lands as provided by the Federal Land Policy and Management Act (P.L. 94-579)		+1,200,000	
Water, Forage and Habitat Management To transfer access function to the Acquisition, Construction and Maintenance Appropriation (-$4,000) and to provide for increased costs for employee compensation payments (+$382,000)	10,889,000	+378,000	
Wildlife Habitat Management To transfer access function to the Acquisition, Construction and Maintenance Appropriation	5,381,000	-2,000	

	Base for 1978	Increase/Decrease 1978	
Fire Management .....$	8,304,000	--	
Pay and Personnel Costs To annualize October 1976 pay raise for civilian employees	--	+$90,000	+$3,097,000
PLANNING AND DATA MANAGEMENT			
Planning for Multiple Use	10,422,000		
- National Petroleum Reserve - Alaska - To continue the land use study required by P.L. 94-258 including the identification of values and recommendations of land and resource uses		+1,000,000	
- Long Range Study - To provide for a long range study of public land programs and objectives mandated by the Federal Land Policy and Management Act (P.L. 94-579)		+1,000,000	
- California Desert - Reduction to reflect decrease in the total amount available to the California Desert. The amount available will be used to prepare a comprehensive long range plan to guide management of the desert as provided by the Federal Land Use Policy and Management Act (P.L. 94-579)		-1,000,000	
Data Management To implement integrated systems for automated data management	9,711,000	+2,960,000	
Pay and Personnel Costs To annualize October 1976 pay raise for civilian employees	--	+40,000	+4,000,000
CADASTRAL SURVEY			
- Cadastral Survey - Alaska - To help reduce the growing backlog of surveys required to implement the Alaska Native Claims Settlement Act Program	8,419,000	+1,560,000	
- Cadastral Survey - Other States - To provide capability to conduct urgently needed selected surveys in Lower 48 States	7,275,000	+440,000	

	Base for 1978	Increase/Decrease 1978	
Pay and Personnel Costs			
To annualize the October 1976 pay raise for civilian employees		+$30,000	+$2,030,000
FIREFIGHTING AND REHABILITATION			
Firefighting	$4,150,000	--	
Rehabilitation	600,000	--	--
ADMINISTRATION AND ENFORCEMENT			
- Administration -	3,329,000		
(a) To meet increased accounting and procurement workloads in support of resource programs	--	+200,000	
(b) To finance contract audits by the Office of Audit and Investigations	--	-30,000	
- Enforcement - To train contracted state and local law enforcement personnel to meet Federal Standards and to contract with qualified agencies in high demand areas	361,000	+250,000	
Pay and Personnel Costs			
To annualize the October 1976 pay raise for civilian employees	--	+17,000	+437,000
Budget Estimate			$237,711,000

1. Energy and Minerals Management

Analysis of Activity

FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-)
$72,543,000	$87,814,000	$98,295,000	+$10,481,000

1. Energy and Minerals Management: FY 1977, $87,814,000; FY 1978, $98,295,000; an increase of $10,481,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) Energy Minerals - Onshore				
(1) +$1,160,000	+15	$9,721,000	344	Oil and Gas Leasing: Accommodate increased workload in development related activities, control development of access to leases, consider visual impacts in management decisions ($660,000) and provide for surface management and protection in the National Petroleum Reserve - Alaska ($500,000)
(2) +$6,100,000	+46	$20,181,000	245	Coal Leasing: Accelerate regional coal environmental impact statement effort (+$2,900,000), assess reclamation potential of proposed leasing areas ($2,700,000), and implement lease schedule phase of the Energy Mineral Activity Recommendation System ($500,000).
(3) -0-	-0-	$2,474,000	71	Geothermal: No change.
(4) -0-	-0-	$608,000	13	Oil Shale: No Change
(B) Energy Minerals - Offshore				
(1) +$2,000,000	-0-	$58,550,000	232	Energy Minerals - Offshore: To fund FY 1978 efforts for on-going environmental baseline and monitoring studies.
(c) Non-Energy Minerals - Onshore				
(1) -0-	-0-	$1,929,000	63	Mineral Materials: No Change.
(2) +$ 880,000	+16	$2,493,000	71	Mining Law Administration: eliminate mineral patent application backlog by 1985 ($630,000), and process oil shale patent applications under expected court order ($250,000).

(3) +$200,000	-0-	$2,198,000	72	Non-Energy Mineral Leasing: To obtain phosphate resource data and facilitate potash leasing and operational activities.
D. +$141,000	-0-	$141,000	-0-	To annualize the October 1976 pay raise for civilian employees.
E. (+$185,000)	-0-	($1,635,000)	-0-	GSA space costs included above.
+$10,481,000	+77	$98,295,000	1111	

Program Synopsis

The objectives of the Energy and Minerals Management activity are:

- Orderly and timely development of energy and mineral resources to meet National needs with adequate consideration given to other land and resource values.
- Minimizing environmental impacts from development.
- Assuring a fair return to the public for the resources sold.

Energy and Mineral resources are made available by patents, leases, and sales, including free use permits to governmental agencies. Regulations providing for protection of the land surface during exploration and extraction are implemented to ensure safeguarding of the public interest and protection of the environment.

Major changes in FY 1978 reflect continued emphasis on energy resource leasing and production with the associated environmental evaluations and impact statements where necessary. Additional funding is requested in onshore oil and gas leasing to facilitate review of proposed development plans, conduct compliance checks, implement visual resource considerations and provide for management control over access. Funds are also requested to fulfill surface management and protection responsibilities in the National Petroleum Reserve-Alaska. In coal leasing, funds are required for preparation of regional environmental impact statements, further implementation of the Energy Mineral Activity Recommendation System, and for assessment of the reclamation potential of lands being considered for lease. Added OCS funding is needed for the next phase of baseline and monitoring study efforts currently underway.

In the non-energy programs, funds are requested to eliminate the existing mineral patent application backlog by fiscal year 1985, to process mineral patent applications related to oil shale lands as expected to be directed by the District Court, and to provide necessary support for realty casework. Funds are also requested for phosphate studies in Florida and for potash leasing activities in New Mexico.

A. Energy Minerals-Onshore
Fiscal Year 1977 $25,724,000; Fiscal Year 1978 $32,984,000; an increase of $7,260,000.

MAJOR PROGRAM CHANGES

(1) Oil and Gas Leasing	+$1,160,000; Total $9,721,000 +15 positions; total 344 positions

Proposal. The requested increase in funding and personnel is necessary to accommodate the increased workload in activities related to oil and gas development specifically the accomplishment of an additional 1,000 compliance checks, review of an additional 375 development plans and completion of an additional 4,000 assignments of leases from one party to another. Capability is also required to provide management control of access to oil and gas leases through issuance of approximately 160 road permits. In conjunction with these activities, funds are requested to provide visual resource assessment input to environmental analysis records (EAR's), development plan approvals and access permits covering approximately 75,000 acres and thus to minimize the adverse visual impacts of proposed actions on public lands. Finally, an increase is necessary to fulfill BLM's surface management and protection responsibilities in the National Petroleum Reserve-Alaska.

Concern for the environment has led to the requirement for more detailed exploration and development plans with an associated increase in the time needed for BLM review. In addition, field checks are now being made in association with development wells, as well as exploratory wells, to assure compliance with stipulations; in previous years empnasis in compliance work was directed primarily to new exploration, Six positions, temporary support and $240,000 are required for these activities based on the following:

- Review of 375 development plans requires 2 positions and temporary support. The workload includes review of planned activities and surface disturbance; where necessary a joint BLM-USGS field exam is contemplated for each review.
- Performance of an additional 1,000 field investigations to insure compliance with surface protection stipulations in leases requires 4 positions and temporary support. An average of 1.25 days is required per compliance check.

In conjunction with exploratory or development activities, road construction is frequently necessary. In order to provide proper BLM control and management of access to leased areas, BLM now requires the permittee or lessee to acquire a road right-of-way authorization. The associated BLM workload includes environmental analysis (in most cases utilizing the EAR prepared for the lease or development plan) and preparation of appropriate protective stipulations (.25 man-months per case), field review and issuance of permit (.1 man-month), and surface compliance checks (.1 man-month).

Based on the requirement of .45 man-months per permit, four positions, temporary support and $180,000 are needed to issue 160 of the total road permits anticipated in four States with the greatest oil and gas development activity - Colorado, New Mexico, Utah and Wyoming.

Issuance of oil and gas leases, approval of proposed exploration and development plans, and issuance of road permits all include assessment of environmental impacts and preparation of environmental analyses. One of the major impacts of oil and gas development relates to the visual environment. Thousands of miles of seismic trails scar public lands in Wyoming, Utah and New Mexico, and access roads parallel each other to neighboring drill sites where a single road could be situated to accommodate several sites. Much public anti-development attitude is stimulated by such unsightly development activities. To minimize the adverse impact of land-use management practices on the visual environment, BLM has initiated a visual resource management system similar to that which is operational in the Forest Service. Basic components of this effort are inventory and evaluation and project application. $90,000 is required for temporary personnel to accomplish project-level inventory and design work on approximately 75,000 acres affected by oil and gas development activities. This acreage has been identified as critical because of its physical scenic attributes, the public's sensitivity to its scenic quality, and its proximity to major travel routes. The information will be utilized as input to approximately 750 environmental analysis records and 150 development plan reviews. This aspect of the program will result in

better access road locations and other lease stiuplations to control unsightly visual impacts.

SEISMIC TRAILS SCAR THE LANDSCAPE NEAR MOAB, UTAH

As provided in the Naval Petroleum Reserves Production Act of 1976 (P.L. 94-258), the Secretary of the Interior assumed all responsibility for protection of environmental, fish and wildlife, recreational, historical, and scenic values in Naval Petroleum Reserve Number 4, Alaska on April 5, 1976. Total jurisdiction over the Reserve, retitled the National Petroleum Reserve-Alaska, will be transferred to the Secretary on June 1, 1977. Exploration for oil and gas will require construction of access roads, (including development of gravel supplies), staging areas, camps, etc. in remote areas having surface values of local, state, and national interest. In addition, other Federal and State agencies plan periodic studies of fish, wildlife, and mineral resources such as coal. All these activities require BLM coordination and management. Temporary manpower and $500,000 are required to support FY 77 permanent capability to minimize disturbance to all aspects of the NPR-A environment from energy exploration and related activities. Specific activities will include implementation of regulations for surface protection, preparation of approximately 20 Environmental Analysis Reports on well sites, material sites, water sources, and roads; stabilization of disturbed areas not covered by current permits or contracts; approval of applications and issuance of authorization for campsites, roads material sites, and related exploratory work. Funds are also required for various contract studies dealing with identification of archaeological and historic values on a site-specific basis prior to use of the land for exploration drilling and geophysical survey activity; determing the location and availability of water required for drilling wells and constructing

ice roads; and determing the location of fisheries in the immediate areas that will be affected by exploration.

Finally, existing adjudicative capability is not adequate to eliminate the existing backlog in processing oil and gas lease assignments. Since exploration and development activities cannot be initiated on the 4,000 leases involved until the assignments are completed, resource production is at stake. One-third manday per assignment is required; 5 positions and $150,000 will eliminate the 4,000 backlogged assignments.

Justification. Over the last 30 years, the U.S. energy mix has altered substantially. Petroleum increased from 34.5 percent of the total energy consumption to an estimated 46.6 percent while natural gas moved from 13.6 percent to an estimated 28.4 percent. During this same period the source of U.S. energy has also changed. In 1947 the U.S. was a net exporter of energy. In 1974, U.S. energy imports represented 37 percent of total U.S. petroleum consumption and 4 percent of total U.S. natural gas consumption. These percentages continue to increase.

The oil embargo highlighted for the entire Nation the need to change the trend toward dependence on foreign energy and lent urgency to efforts to accelerate development of domestic energy resources. Based on Bureau of Mines projections, petroleum consumption will increase 52 percent by the year 2000 for an annual average growth rate of 1.7 percent. Natural gas consumption is projected to decrease approximately 13% by 2000 for an average annual negative growth rate of 0.5 percent, even though the short range estimates are up.

Public land leases under BLM's onshore oil and gas leasing program supplied approximately 5.5% of domestic oil production and 5% of domestic gas production in 1975. Development of oil and gas resources on Federal lands must proceed expeditiously to meet the projected resource need and reduce dependence on foreign sources. Furthermore, development must proceed with careful consideration of associated environmental impacts. If the Federal Government is to avoid costly delays in development because of court actions, it must assure identification and analysis of visual resource values in determining appropriate land uses and provide guidance to minimize adverse visual impacts where development is permitted.

In order to provide for visual considerations on locating roads to be constructed as well as to protect environmentally fragile lands and already existing roads, BLM must have the capability to control and manage the access to leased areas. This includes manpower to examine proposed routes on the ground both on and off leased areas, develop stipulations, issue permits in a timely fashion, and monitor use and supervise construction. With the requested capability, BLM will be in a position to avoid irreparable damage to the land. The Solicitor has ruled that BLM has not only the authority but the responsibility in administering the public lands to require lessees, permittees, or those conducting exploratory operations to obtain appropriate permits for road use and construction. The requested increase is needed in FY 1978 to enable BLM to meet its management responsibilities in protecting public lands from damage by uncontrolled access, while at the same time permitting the needed development of energy sources on such lands.

The Naval Petroleum Reserves Production Act of 1976 (P.L. 94-258) mandates Department of the Interior actions in the National Petroleum Reserve-Alaska. Exploratory activities were initiated under contract by the Navy in 1976 and will continue under Interior overview. BLM must have capability to minimize disturbances of soil and plant cover; protect scenic, archaeological and historical values; restore disturbed surfaces; and protect surface resources in areas which may be affected by energy exploration. Existing capability in Alaska cannot accommodate

the new workload associated with meeting the new NPR-A management and protection responsibilities. Since much of the exploration activity will take place in remote and undeveloped areas, delay in providing necessary guidance and management could result in significant damage to surface resources.

Cost Factors. Fifteen permanent positions at an average cost of $16,000, $240,000; twenty-one temporary man years at at an average cost of $12,900, $284,000; travel, per diem and transportation of equipment and supplies for field work, $86,000; space costs, utilities, printing and supplies, and equipment $113,000; contract studies and other contractual services, $437,000.

PROGRAM DESCRIPTION

(1) Oil and Gas Leasing +$1,160,000; Total $9,721,000
+15 Positions; Total 344 Positions

The objective of this program is to make available oil and gas resources for development in response to the urgent national requirement for this energy source. As of June 30, 1976 there were 113,005 exiting oil and gas leases of which 10,446 were in producing status.

Major components of the oil and gas leasing program are administering existing leases, including processing assignments; reviewing proposed development plans in conjunction with USGS; performing compliance checks; issuing road permits to control access to lease sites; and processing and issuing new leases, including preparation of environmental reports. The program outputs are shown below.

Oil and Gas Leasing Outputs

	1977 Estimates	1978 Estimates
Leases issued	11,100	11,100
Simultaneous filings processed (000)	1,950	2,115
Development plans evaluated (No.)	2,000	2,375
Compliance Checks (No.)	6,900	7,900
Assignments completed	38,300	42,300
Road use authorizations	5,800	5,960
Visual resource management input to EAR's (000 acres)	---	75
Production		
Oil (mil. blls.)	165	162
Gas (tril. cu. ft.)	1.09	1.18
Revenue from filing fees ($ million)	$19.5	$21.5
Revenue from bonuses, rents, royalties	$311.5	$350.8

MAJOR PROGRAM CHANGES

(2) Coal Leasing +$6,100,000; Total $20,181,000
+46 Positions; Total 245 Positions

Proposal. Increased funding and personnel are required to further implement the Federal coal leasing program in conformance with the Federal Coal Leasing Amendments Act, approved August 4, 1976. The FY 1977 budget provided capability to initiate this effort. Increases are required to accelerate the regional environmental impact statement (EIS) effort by beginning preparation of an additional two regional EIS's (for a total of 9 EIS's) in FY 1978 and completing EIS's on all 27 regions by 1981. Increased capbility is also needed to assess reclamation potential on lands being considered for lease. Finally an increase is requested to implement the scheduling phase of the Energy Minerals Activity Recommendation System (EMARS), the Department's coal leasing process, including development of a coal lease schedule and regional demand analyses.

Environmental Impact Statement Preparation (+$2,900,000; +23 Positions)

In order to assure that Federal coal resources are developed in accordance with adequate protection of the environment, the Department has identified 27 geographic areas within which Federal coal leasing is most likely. These areas are shown on the map on the following page. Environmental Impact Statements (EIS's) on two of the areas will be completed in FY 1977. Funds and positions were provided in FY 1977 to initiate preparation of seven additional regional EIS's. This capability will be utilized in FY 1978 to continue the effort - specifically to complete the seven EIS's underway and begin preparation of another seven areas. However, in order to complete EIS preparation on all 27 areas originally identified by FY 1981, $2.9 million and 23 positions are required to initiate preparation of two additional EIS's in FY 1978. This would mean that through FY 1978, 18 EIS's would have been initiated or completed (FY 1977 = 9; FY 1978 = 9). Capability would be available to initiate the final 9 EIS's in FY 1979 and provide for completion by FY 1981. The requested increase assumes maximum utilization of contracts in the preparation of the EIS's, with BLM personnel serving to design, issue, and monitor the contracts; review data outputs to assure necessary quality; and develop final recommendations. Specific geographic locations of the Environmental Impact Statements to be initiated in FY 1978 will consider the nominations recently submitted by industry, the States, and the public through the Energy Minerals Activity Recommendation System process.

Energy Minerals Activity Recommendation System (EMARS) (+$500,000; +6 Positions)

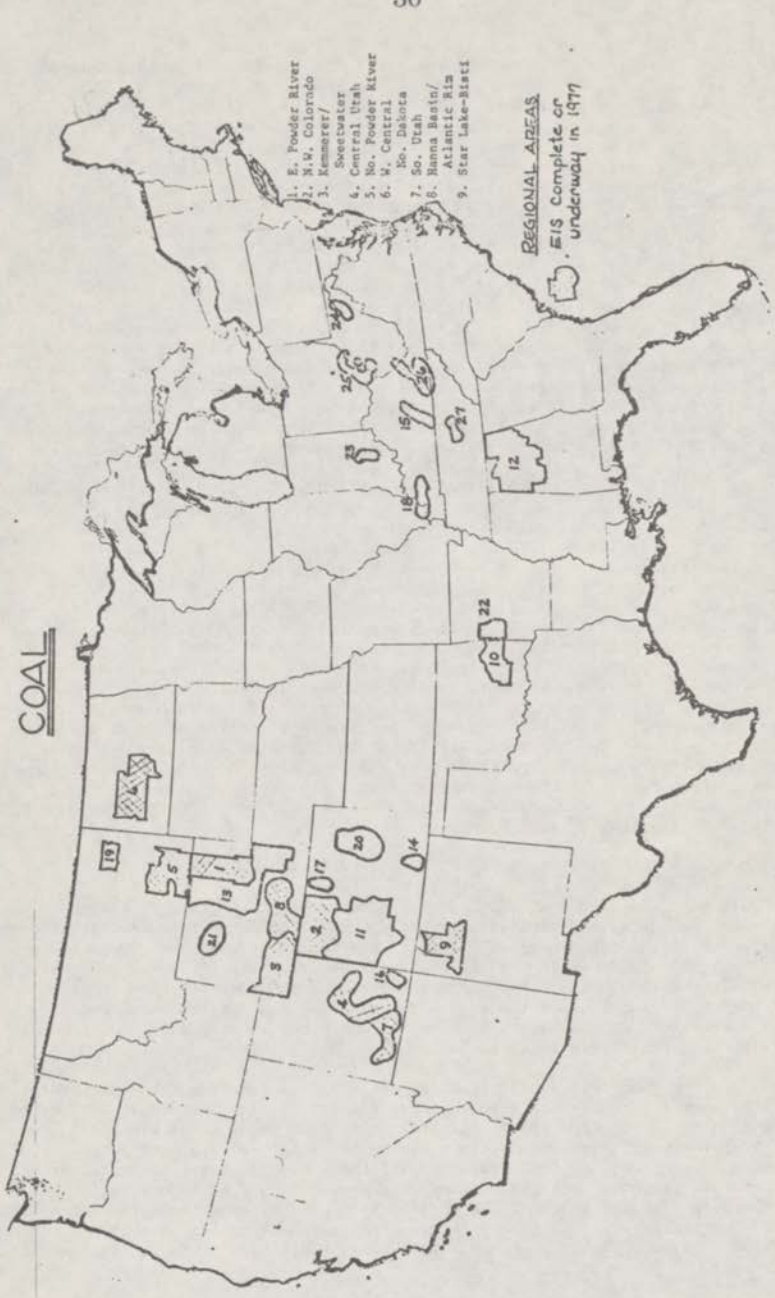
The actual leasing of coal will be accomplished through the EMARS process. Capability was provided in FY 1977 for the ongoing nominations phase of EMARS, including processing the nominations, incorporating the data into the planning system and developing aggregate tract nominations for use by USGS. $500,000 and six positions with temporary support are necessary in FY 1978 for the scheduling phase of EMARS operations. Specifically, added capability is required for selection of proposed coal lease tracts following completion of regional coal EIS's and adjustment of previously proposed tracts following GS input on coal development potential. Capability is also needed to prepare and keep current analyses of coal demand by specific region and determine the appropriate rate of leasing to accommodate this demand. Finally manpower is requested for the actual development of a 5 year coal lease schedule with identification of specific lease sales and tracts to be offered during the first year and general plans for the four following years. Schedules are to be prepared in each State with substantial input from State governments. A formal schedule will be developed and presented to the Secretary for approval or modification.

Environmental Data Collection (+$2,700,000; +17 Positions)

Anticipating accelerated coal development and possible resumption of leasing activities, the Department initiated a program in FY 1975 to evaluate disturbance problems and reclamation potential of lands that could be disturbed by coal mining. In FY 1978 $2.7 million and 17 positions are required to augment the current effort. Information collected through this program provides the Department with environmental data necessary for use in the planning and environmental impact analysis processes as well as in development decisions, mining plan requirements and lease and permit stipulations.

A major component of this data collection effort is reclamation study sites designed to provide detailed baseline data on a specific area for use in indicating problems to be encountered should the area be mined. These study sites are used in forming recommendations for actions during premining, mining, and post-mining to assure satisfactory reclamation. To date these studies have utilized, through a cooperative agreement and BLM funding, the expertise and equipment available from the Bureau of Reclamation. No additional positions have been provided to BR for this participation. In recent years, Congressionally mandated projects have increased BR's construction program. BR's responsibilities in these construction

83-561 O - 77 - 3


COAL
REGIONAL AREAS
EIS Complete or underway in 1977
1. E. Powder River
2. N.W. Colorado
3. Kemmerer/ Sweetwater
4. Central Utah
5. No. Powder River
6. W. Central No. Dakota
7. So. Utah
8. Hanna Basin/ Atlantic Rim
9. Star Lake-Bisti

BLM-28

projects cause its existing capability to be directed to meeting its basic mission with the result that BLM data collection requirements cannot be accommodated. Additional positions requested for FY 1978 include those necessary to enable BR's continued participation beyond FY 1977.

Recognizing that BR cannot accommodate the entire data collection effort, BLM proposes to establish two to three study sites through private contract. Based on available equipment and expertise, this is considered the maximum utilization of private contract capability. Once a study site has been established, maintenance of various water studies continues at an average cost of approximately $30,000 per site per year. While maintenance costs at each site vary depending primarily on whether it is a surface or ground water study and the frequency of water quality sampling, the average cost includes 5 wells sampled twice a year at $500/sample for total analysis of ground water ($5,000), and 5 surface water stations with auto-sampling and monthly water quality analysis ($22,500). No funds have previously been provided for this cost, nor have funds been provided to cover the increase in costs since 1975 to establish a study site. The original reclamation study site funding is not adequate to cover maintenance of the 17 existing study sites and establishment of seven new study sites. A total of $1.5 million and 12 positions is requested for these activities.

Complementary to the site-specific water studies discussed above, BLM provides water resource investigations designed to provide surface and ground water quality and quantity data over broad geographic areas, such as the area of a coal regional EIS or the area of a coal basin. Original funding was provided to initiate specific studies and did not include any ongoing monitoring costs. $600,000 is required for specific maintenance costs of the water resource investigations. No average costs per site are available because study costs vary depending on precipitation zone, vegetation type, physiography and hydrologic regime, and water quality parameters.

A third program component - revegetation trials designed to provide basic reclamation information on surface conditioning, surface manipulation and adapted vegetative species for use in developing stipulations - is carried out over a two-year period with a small annual maintenance cost thereafter. In certain types of revegetation trials, second year costs exceed first year costs because on the ground work, as opposed to planning, is completed in the second year. Thus, the existing base is not adequate to cover maintenance costs and increases in second-year costs, and still provide for initiation of revegetation trials in new areas. $400,000, 5 positions and temporary support are required as follows: $235,000 for second year requirements of trials initiated in FY 1977 and $165,000 to initate 12 revegetation trials at an average cost of $13,800 each.

Another workload element associated with the reclamation data collection effort is acquisition of legal access to specific sites. Access and rights-of-way must be acquired to conduct studies on private surface over Federal minerals, and to cross private surface to reach study areas on Federal surface. Since only limited added capability has been provided for the data collection effort (21 positions including 9 transferred to GS), access needs have been met at the expense of other program requirements. Sixty easements must be acquired in FY 1978 to accommodate proposed environmental data collection studies. Since the easement includes provision for access for ongoing monitoring related to the study, compliance checks by BLM continue to be necessary for contracted study areas. To meet the access need identified for FY 1978, $200,000 and temporary support are required.

Justification. Fossil fuels provide over 90 percent of the energy consumed in the United States. Currently over 17 percent of this energy is provided from coal; yet coal constitutes 73 percent of the total domestic fossil fuel energy bank. Bureau of Mines projections for total domestic coal demand show a 32 percent increase over the 1974 level in 1980, a 66 percent increase in 1985, and a 180 percent increase in 2000. Roughly half of the total coal resources in the United States are located in the western coal provinces. The Federal Government owns approximately 60 percent of these western goal resources. Furthermore, due to scattered ownership patterns, both surface and subsurface, Federal Government decisions will influence the development of nearly 80 percent of all western coal resources.

The Federal Coal Leasing Amendments Act and the new comprehensive Federal coal leasing policy recognize the significant role that Federal coal can and must play in meeting future domestic energy demand. The increases requested in FY 1978 to continue efforts already underway in implementing the coal policy must be provided to assure that the Department can be responsive to specific needs in a manner that has carefully considered coal resource values, alternative land uses, environmental impact from development, and reclamation potential of the affected lands. Management decisions based on these considerations are not as likely to be challenged in court and thus subjected to associated delays. Completion of the EIS's in a timely manner provides the government with maximum flexibility in offering Federal coal resources for development where they are needed and in the quantity necessary to make a timely contribution to national domestic energy supplies while assuring that the resources are developed in accordance with adequate protection for the environment. The reclamation data collection efforts provide further guidance for decisions on where to lease and how to develop the coal resource to assure maximum reclamation. The latter is carried out through lease stipulations and appropriate provisions in the mining plans.

In addition to facilitating increased coal production from Federal lands, bonus revenues to the Federal Government from competitive lease sales held in FY 1978 through the operation of EMARS are estimated to be $28.7 million assuming up to five sales under a deferred bonus payment system. $5.8 million would be collected in FY 1978, with like amounts to be paid in each of the next four years.

Cost Factors. Forty-six permanent positions at an average cost of $22,200, $1,023,000; twenty-seven temporary man years at an average cost of $12,700 $343,000; travel, per diem, and transportation, $207,000; space costs, utilities, printing, and supplies, $245,000; equipment, $407,000; contracts to acquire data for environmental impact statements, for maintenance of environmental data collection studies, and for conduct of studies on three reclamation study sites, $3,875,000.

PROGRAM DESCRIPTION

(2) Coal Leasing — +$6,100,000; Total $20,181,000
+46 Positions; Total 245 Positions

The objectives of this program are to facilitate development of existing leases, and to implement the new Federal coal leasing policy in conformance with the Federal Coal Leasing Amendments Act, approved August 4, 1976. In support of our coal leasing and development actions, the Bureau administeres an environmental data collection program designed to provide data on the reclamation potential of specific lands likely to be affected by coal development. This aspect of the program is intended to minimize environmental impacts from surface mining of coal.

The major workload of the coal leasing program involves administration of existing leases, activities preliminary to issuing new leases, and actual lease/permit issuance. Existing lease administration includes readjusting and modifying permit and lease terms, evaluating proposed development plans in conjunction with USGS, and performing field investigations to assure compliance with lease/permit stipulations. Activities preliminary to issuing new leases include completion of land-use plans (Management Framework Plans), preparation of environmental analysis records or environmental impact statements where necessary, EMARS operations in the nominations and scheduling phases and collection of environmental data related to reclamation potential of specific lands. Actual lease issuance includes processing applications which meet the short-term leasing criteria, processing perference right lease applications, and will include competitive coal lease sales under EMARS. Up to five competitive lease sales are tentatively planned in FY 1978.

Coal leasing outputs for FY 1977 and FY 1978 are as follows:

	FY 1977	FY 1978
Leases readjusted	30	30
Leases modified	2	5
Pref. right lease applic. processed	6	50
Short term leases issued	12	15
Competitive lease sales through EMARS	--	5
Leases issued through EMARS sales	--	23
Compliance checks	85	100
Exploration/mining plans evaluated	175	430
Production (million tons)	58	72
Revenues ($ millions)	$10.0	$18.8
Environ. data collection-reclamation potential		
Soil Inventory (000 ac.)	300	300
New reclamation study sites	6	7
Reclamation study sites maintained	11	17
Revegetation studies initiated	14	12
Water gauges installed/maint.	285	385
Water sampling stations install/maint.	188	288

MAJOR PROGRAM CHANGES

(3) Geothermal Leasing — No Change

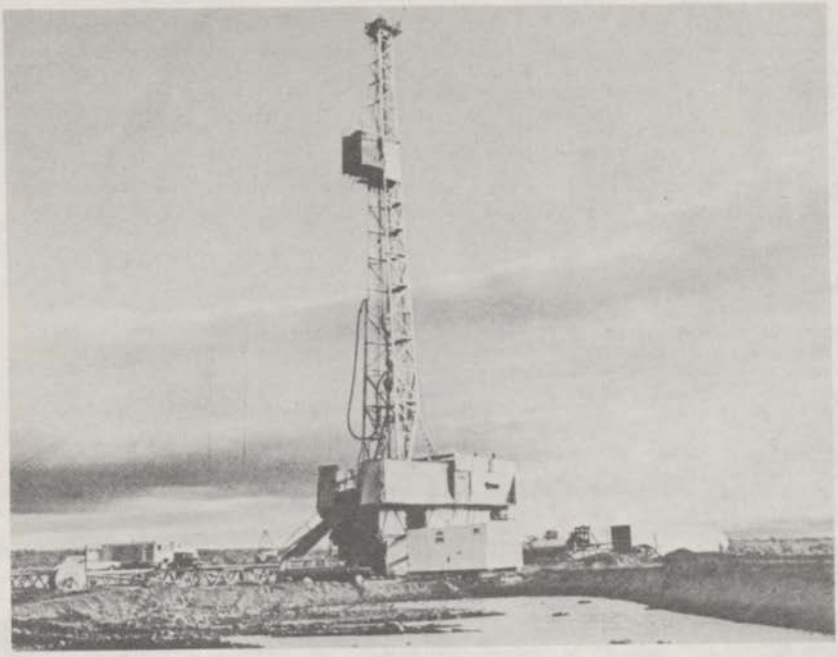
PROGRAM DESCRIPTION

(3) Geothermal Leasing — No Change; Total $2,474,000
No Change; Total 71 Positions

The objective of this leasing program is to provide for development of an alternative energy resource by making geothermal resources available through competitive and noncompetitive leases. Development of geothermal resources has particular significance on a local level where production of one megawatt from geothermal steam saves 35 barrels of oil a day. Geothermal production and hydropower are projected to increase at an average annual growth rate of 2.7 percent through 2000.

Interest in obtaining noncompetitive geothermal leases is stable, with approximately 700 noncompetitive lease applications being submitted in both FY 1975 and FY 1976. In FY 1976 435 noncompetitive leases were issued. Eleven competitive leases sales were held in FY 1976 with 59 tracts being leased. Nineteen competitive lease sales are planned for FY 1977. While the number of competitive sales is lower in FY 1978 - 11 sales are planned - the workload associated with development activities is expected to increase. This includes reviewing plans of operation, drawing up appropriate stipulations and making field checks to assure

compliance. Close coordination with USGS is required in these actions. Further, when commercial quantities of steam are discovered on a lease (as in the Geysers area in California) permit applications for steam lines, roads, etc., are anticipated.



DRILLING A GEOTHERMAL WELL IN OREGON

Processing noncompetitive applications includes activities such as noting records and overlapping filings, plotting the location of the application on land status plats, adjudication, preparation of an environmental analysis record, reviewing the operating plan submitted with each application and awarding the lease.

Holding a competitive sale includes activities such as preparing an environmental analysis record and, where necessary, an environmental impact statement, determining tracts to be offered for lease, publishing notice of sale, determining lease stipulations to be included, determining bonds to be required, conducting the sale, making a post sale analysis to determine acceptance of high bids, and awarding leases. In addition, BLM is responsible for assigning, modifying and terminating leases.

Given the stable workload in noncompetitive leasing and the increase in development activities being initially accommodated by a reduction in the competitive lease sale workload, no increases are required in FY 1978. Geothermal program outputs are as follows:

	FY 1977	FY 1978
Noncompetitive applications received	700	700
Noncompetitive applications processed	700	700
Competitive lease sales	19	11
Operation plans reviewed	130	160
Compliance checks	50	75
Revenues - ($ millions)	$5.4	$6.6

MAJOR PROGRAM CHANGES

(4) Oil Shale Leasing — No Change

PROGRAM DESCRIPTION

(4) Oil Shale Leasing — No Change; Total $608,000
No Change; Total 13 Positions

This is the prototype oil shale leasing program with the following objectives: to stimulate private industry to produce commercial quantities of oil from shale, insure the environmental integrity of the area is maintained, develop methods and technology for protection of the environment, permit an equitable return for all parties, and develop leasing management expertise for oil shale production. Additional commercial scale leasing will not be considered until the environmental effects from development of prototype leases are evaluated.

The Federal Government owns and administers approximately 70% of the oil shale resource. The known Green River Oil Shale Formation deposits include high grade shales that represent 20-30 barrels per ton of shale. Bureau of Mines projections show that oil shale could provide 3.5 percent of total energy consumption in 2000. Under the Department's prototype leasing program, six lease sales have been held, with four tracts being leased. In addition, tracts have been nominated for two other sales, with the tracts to be developed using the in-situ method. The oil shale programmatic environmental impact statement is currently being modified to include the proposed tracts, and two sales are planned for FY 1977.

BLM's principal workload is in administration of the existing four prototype leases, particularly monitoring pre-development operations for adequacy of stipulations and compliance. While the Department has suspended development of the four lease tracts for one year, the companies must maintain their environmental monitoring efforts during the period of suspension. BLM's workload will remain essentially the same. If leases are issued as a result of the two planned sales, FY 1978 capability will be utilized in administration of these leases as well as the existing four leases. Effort will also be directed to processing mineral patent applications on oil shale lands in response to an expected Colorado District court ruling. Capability for this effort is provided in the nonenergy minerals subactivity under Mining Law Administration.

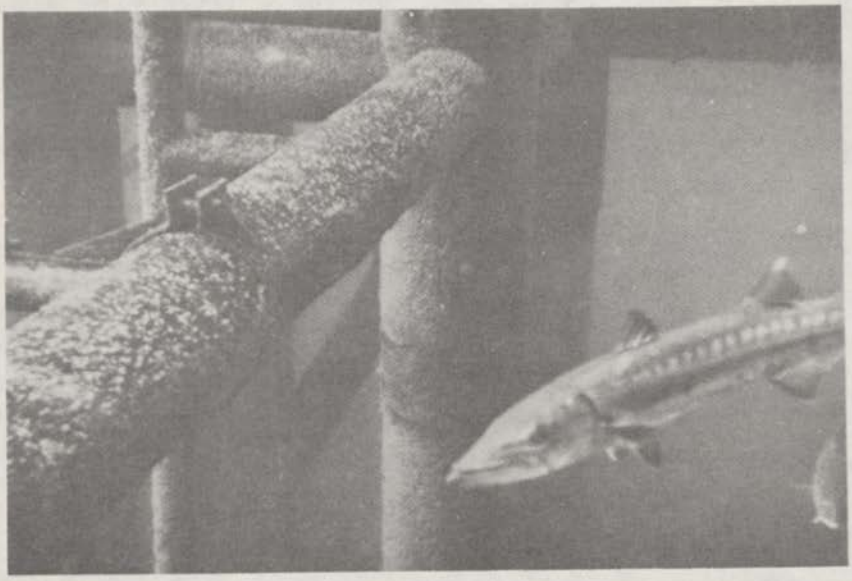
Oil Shale Leasing Outputs

	FY 1977	FY 1978
Existing prototype leases administered	4	6
Prototype leases offered for sale	2	-

MAJOR PROGRAM CHANGE

B. Energy Minerals-Offshore (OCS leasing) +$2,000,000; Total $58,550,000
+0 Positions; Total 232 Positions

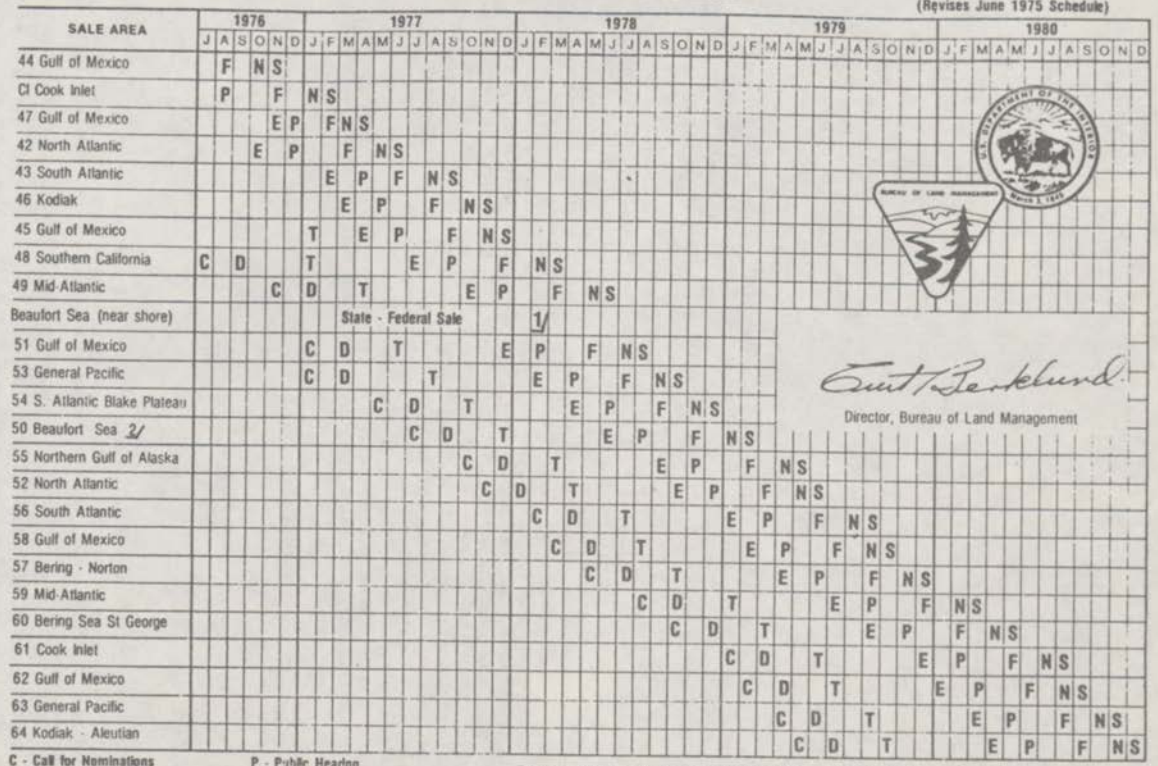
Proposal. The requested increase is needed to bring the on-going baseline and monitoring study programs to the level required in FY 1978 by the progression of study components. The objective in terms of timing of baseline studies is to initiate studies a minimum of eighteen months prior to planned sale dates. This will assure maximum utilization of data in Environmental Impact Statements (EIS's) when possible, in tract selection, in pipeline siting, etc. This timing also will facilitate coordination with affected states in designing studies to incorporate specific data needs. Even with the revision of the June 1975 OCS planning schedule provided on the following page, the initiation objective has been met on only two studies, both in Alaska. Initiation of benchmark studies only 6-12 months prior to a sale reduces or eliminates utilization of data in planning and operation of sales and limits the time available for participation by states. In many cases, especially in Alaska, the initial field work in a baseline study is the first information gained on species abundances, habitats, and lifecycles. Hazards such as faults, unstable bottom sediments, and shallow gas pockets may be identified before lease sale decisions are made. Several specific decisions have already been guided by environmental studies information. These include tract selection and stipulations on tracts offered in the 1976 Gulf of Alaska sale based on critical resource locations and surface circulation patterns, lease stiuplations on topographic highs in the South Texas area to portect fishing areas and coral reefs, and stipulations and tract deletions in Southern California based on bird and mammal habitats.



OFFSHORE RIGS PROVIDE A UNIQUE FISHERIES HABITAT

PROPOSED OCS PLANNING SCHEDULE

January 1977
(Revises June 1975 Schedule)



C - Call for Nominations
D - Nominations Due
T - Announcement of Tracts
E - Draft Environmental statement
1/ State May Conduct Sale

P - Public Hearing
F - Final Environmental Statement
N - Notice of Sale
S - Sale
2/ Within 60 Foot Isobath or Technology Capability

Sales are contingent upon technology being available for exploration and development. A decision whether to hold any of the lease sales listed will not be made until completion of all necessary studies of the environmental impact and the holding of public hearings, as a result of the environmental, technical and economic studies employed in the decision making process, a decision may, in fact, be made not to hold any sale on this schedule.

Curt Berklund
Director, Bureau of Land Management

BLM-35

Specific funding requirements by area are as follows:

	FY 1977	FY 1978
MAFLA (Mississippi, Alabama, Florida)	2.6	1.7
South Texas	3.2	2.8
Southern California	4.2	5.0
Mid Atlantic	3.6	4.0
North Atlantic	3.7	4.0
South Atlantic	3.7	4.0
Gulf of Alaska	2.5	2.5
Bering Sea	4.0	4.0
Beaufort Sea	3.5	3.2
Kodiak	2.5	3.2
Aleutian Shelf	2.7	2.9
Chukchi	3.0	3.3
Norton Sound	2.7	3.0
Cook Inlet	1.2	1.5
	43.1	45.1

Justification. Approximately 11% of the total domestic oil production and 17% of the total domestic gas production in 1975 came from the Outer Continental Shelf. In response to the growing demand for these resources, the Department has begun leasing in frontier areas with sales in the Gulf of Alaska and the Mid-Atlantic in 1976. Based on estimates by USGS, the tracts offered for lease in the Mid-Atlantic Sale have a potential daily production capability of from 90 to 320 thousand barrels of oil and from .085 to 3 million cubic feet of gas. Approximately 60 percent of the tracts offered were leased in the Mid-Atlantic, while in Alaska where the risks are greater approximately 40 percent of the tracts offered were leased. Bonus revenues to the Federal government of $1.7 billion were received from the two sales. Both sales were threatened with delays because of legal suits charging inadequate consideration of environmental impacts related to oil and gas development. Similar action may take place in the other frontier areas as both the States and the general public evaluate the Department's leasing proposals. Timely initiation and completion of baseline studies and operation of monitoring studies are vital in assuring both concerned States and private citizens that the Department is evaluating the impact on the environment and forming leasing and operating decisions which will provide for maintenance of the overall environmental integrity of the area. Since both increased resource production and considerable revenues to the Federal government are involved in proposed frontier OCS lease sales, the Department must meet environmental study requirements associated with these sales.

Cost Factors. The entire $2.0 million will be utilized for contractual services for studies and analyses.

PROGRAM DESCRIPTION

Energy Minerals - Offshore

Total $58,550,000
Total 232 Positions.

The objective of this program is to make offshore oil and gas resources available by holding an average of six lease sales per year through 1980 with sales in the Gulf and most frontier areas, while assuring maintenance of environmental integrity of lease areas.

Since the OCS program began in 1953, the Government has leased 13.7 million acres of the Federal OCS for oil and gas development. Through September 30, 1976, General Fund revenues received under the program total $17.8 billion for rents and bonuses and $3.9 billion from royalties.

Principal components of BLM's leasing program are processing actual lease sales, including preparation of required environmental impact statements(EIS's), and administering an extensive contract study program designed to provide critical environmental and socio-economic data. The leasing process, designed to provide for full consideration of environmental factors and for full State and public participation, includes the following steps:

(1) Call for tract nomination from industry, States and the general public (to designate tracts in a broad offshore region they think should or should not be offered for lease).

(2) Tentative tract selection based on above and further consultation with adjacent states.

(3) Preparation of a site-specific EIS

(4) Holding of public hearings on draft EIS and preparation of final EIS.

(5) Secretarial decision on leasing a specific area.

(6) Pre-sale evaluations.

(7) Holding of sale.

(8) Post sale evaluations and awarding of leases.

As leasing activities move into frontier areas, the Bureau has provided for much greater involvement by the affected states in the overall process. States may now participate in the call for nominations, tract selection, and preparation of the EIS, including participation in associated public hearings. States are also contacted for input to baseline and monitoring study efforts and are appraised of study results.

Contract study efforts include not only baseline and monitoring studies, but also a number of special studies designed to provide data required in assessing impacts of OCS development. Examples of these studies include toxicity studies, topographic high investigations, faunal succession on rigs, and investigations on drilling and production sites. Data provided through environmental studies are utilized through the leasing and development processes - from the initial proposal of an area for leasing, to tract selection, to preparation of lease stipulations, to potential changes in operating orders.

OCS Leasing Outputs

	FY 1977	FY 1978
Baseline and Monitoring Studies Underway	14	14
Lease sales scheduled	5	6
Production - oil (mil. bbls.)	310	293
gas (tril. cubic ft.)	3.5	3.6
Revenues - ($ billions)	$2.6	$3.1

C. Nonenergy Minerals - Onshore: Fiscal Year 1977, $5,540,000; Fiscal Year 1978, $6,620,000; an increase of $1,080,000.

MAJOR PROGRAM CHANGES

(1) Mineral Materials — No Change

(2) Mining Law Administration

+$880,000; Total $2,493,000
+16 Positions; Total 71 Positions

Proposal. The requested increase in funds and positions is required to eliminate the growing backlog of mineral patent applications by the end of FY 1985; to expeditiously process 18 mineral patent applications involving 371 mining claims on oil shale lands in Colorado in response to an expected District Court ruling; and to provide needed minerals support to the realty casework reduction effort.

As the demands of the Bureau's energy programs have grown, less manpower has been available for nonenergy minerals activities. At the same time the rate of filing mineral patent applications is continuing to increase from approximately 70 per year in 1972-74 to an estimated 85 per year by 1978 with a resulting increase in the patent processing backlog. While added capability has been provided in FY 1977 to process an additional 55 patent applications annually, the period required to reduce the backlog continues over a 20 year time frame. In an effort to eliminate the estimated end-of-year FY 1977 backlog of 330 patent applications annually; this is an increase of 27 applications over FY 1977 capability. Assuming approximately 80-90 new applications are received annually, the backlog would be reduced by 40-45 applications per year with the resultant elimination of backlog in eight years.

Mineral patent processing involves three principal actions: adjudication, mineral investigation and reporting, and patent issuance or contest proceedings. The mineral investigation includes taking samples from the claim, assaying the samples, and performing economic and market analyses to determine the validity of the claim. In instances where the government determines that patent should not be issued, appeals, hearing, and court cases usually ensue. These require extensive preparation of enhibits and case review for presenting expert witness testimony. Approximately three mineral patents can be processed per man year. To process the additional 27 patent applications, 9 positions and $360,000 are required.

Recent court actions are bring pressures to bear on BLM as administrator of oil shale lands in Colorado. A Supreme Court decision in June 1976, remanding a case to the Colorado Court of Appeals and then to the District Court for actions was the culmination of litigation initiated in 1962 directly involving three Colorado oil shale mineral entries and indirectly affecting 17 other mineral entries. In January 1976, the government agreed to be prepared to hold administrative hearings on the original three applications within one field season after they are remanded by the District Court. It is expected that District Court will order BLM to process these applications and be prepared to hold hearings in the fall of 1977 on the validity of the oil shale mining claims involved. It is further expected that the Court will include the remaining 18 patent applications in its ruling and require expeditious processing of all 21 patent applications involved.

Increased capability allocated to Colorado in FY 1977 for mineral patent processing will be utilized to prepare for the first three contests and hearings involving 25 claims pursuant to the expected court order. Five positions, temporary support, and $250,000 are required to initiate processing of the remaining 18 applications involving 371 claims, including issuing an estimated eight contests and holding associated hearings. While the general processing procedures are the same as those described above for other minerals, the time involved is substantially greater with the oil shale patent applications because of the number of claims per application and because contests are anticipated in every instance. The four man-month requirement cited above for other minerals assumes an average of 10 claims per application and less than fifty percent contests. However, the oil shale patent applications have an average of 20 claims each with all contested.

Finally, in support of realty casework efforts, additional mineral expertise is necessary. Processing applications under the Federal Land Policy and Management Act and other disposal laws requires a determination as to whether the land is mineral in character. In areas of the West where mineralization is indicated, the expertise of a mining engineer or a geologist is needed to determine if the land character meets the criteria for disposal. In addition to mineral character determinations on land under application for lease or disposal, conflicts often exist because of mining claims on the same land. Mining claim validity determinations must then be made before the land can be transferred. The work involved in making these validity determinations is similar to that required in processing mineral patent applications. Two positions, temporary support, and $270,000 are requested to accomplish 90 mineral character determinations, each taking approximately .3 man-months of effort, and to perform 10 validity determinations involved 100 mining claims, with approximately 3.5 man-months required for each validity determination.

Justification. The public is entitled to mineral patents under the Mining Law of 1872. Where a showing of a valuable mineral discovery which can be mined at a profit has been made. In many cases lack of patent may delay extraction where title to the land is a factor in obtaining financial backing for mining and milling facilities. As the demand for such commodities as copper, uranium, and bentonite increases, delays in development become more significant.

The expected court order directing expeditious processing of the oil shale patent applications lends urgency to meeting the Bureau's responsibilities. In addition, resolution of these oil shale mining claim conflicts would facilitate handling of proposed private exchanges, rights-of-way, etc. Clearing title to these lands would also open them for further leasing under the Mineral Leasing Act, at some later date.

Minerals input is a prerequisite to reducing the nonenergy casework backlog. Making land available for agricultural or recreation and public purposes use or for exchanges and other purposes is contingent upon receiving the prerequisite minerals input.

Cost Factors. Sixteen permanent positions at an average cost of $17,600, $282,000; twenty temporary man years at an average cost of $12,200, $244,000; travel, per diem, and transportation, $71,000; space costs, utilities, supplies, $73,000; equipment, $60,000; contracts for mineral evaluations, aerial photos, assay sampling, and an oil shale mining and beneficiation cost study $150,000.

(3) Nonenergy Mineral Leasing — +$200,000; Total $2,198,000
Total 72 Positions

Proposal. The requested increase is required to facilitate potash leasing and operational activities in New Mexico to obtain phosphate resource prelease environmental data (soil, air, water) and socio-economic information pertaining to potential phosphate production on approximately 400,000 acres of Federal mineral ownership in Florida.

A moratorium on processing potash applications in New Mexico pending completion of an environmental analysis record (EAR) resulted in a backlog of 137 lease adjustments. An FY 1977 increase will provide capability to process approximately 55 of these cases. In order to expedite reduction of the backlog, $110,000 and temporary support are requested in FY 1978 to process an

additional 9 applications, including preparation of technical exams and environmental analysis records (EAR's). Efforts to study the effects of slimes, solid salt and brine tailings on wildlife, vegetation, soils, and archeological sites will be accelerated in response to problems identified in the New Mexico potash EAR.

A preliminary inventory of Federal mineral ownership in Florida has disclosed approximately 3.5 million acres of Federal interest previously unknown. Am area of approximately 400,000 acres underneath privately-owned surface includes phosphate resources which could contribute to meeting the growing demand for phosphate. To guide management decisions on utilization of this resource, $90,000 is required to btain prelease environmental and socio-economic data, including basic information on soil, air, and water to assist with lease stipulations, rehabilitation, and monitoring. Collection of this data will be done through contracting.

Justification. The principal use of both phosphate and potash resources is in the production of fertilizer. In 1975, 85% of the phosphate production and 94% of the potash production were used directly by the fertilizer industry. The State of Florida is currently furnishing approximately 75% of all domestic production of phosphate in the United States. Further, it has been projected that the demand from the domestic agricultural market alone for phosphate rock will increase at an estimated annual rate of 3%. The existing mines in Florida will be able to absorb this requirement up until 1980 by increasing production. After this date, production will increase only if additional mines are brought on line. Production from Public Lands is needed in meeting this demand.

With regard to potash, Federal lands in New Mexico currently produce over 80% of the total production in the United States. It is significant that about 55% of U.S. consumption is imported, almost entirely from Canada. Expeditious processing of existing applications is necessary.

Cost Factors. Two temporary man years at an average cost of $16,500, $33,000; travel, per diem, and transportation, $4,000; space costs, utilities, supplies, $4,000; equipment, $2,000; contracts for phosphate resource data collection and environmental studies related to potash development, $157,000.

PROGRAM DESCRIPTION

Nonenergy Minersl - Onshore +$1,080,000; Total $6,620,000
+16 Positions; Total 206 Positions

The objective of this program is to make nonenergy minerals available for orderly and timely development while maintaining environmental integrity of related lands and resources. The public onshore mineral estate is comprised of approximately 840 million acres, including public lands, acquired lands, and lands which have been patented with some or all minerals reserved to the United States. BLM's minerals management program deals with minerals such as potassium, sodium, phosphate, and potash which are leased under the Mineral Leasing Act of 1920; minerals such as silver, bentonite and mercury which are locatable under the Mining Law of 1872; and common variety materials which are made available through sales and free use permits to public agencies.

Minerals management effort is also directed to minerals support for other resource management programs. Minerals input is a prerequisite to land transfer actions, with over 5,000 such cases being processed annually in the Lower 48 States. Investments in structures in the range, wildlife, and watershed programs are not made without a determination as to the existence of mining claims. Timber sales and major building and recreation construction projects also require minerals

support to assure that the associated lands are free of mining claims. Furthermore, prior to any proposed land withdrawal, the affected area is evaluated to determine is potential for mineral development. Without timely minerals support, many actions in BLM's resource management programs would be delayed or halted.

Nonenergy Minerals - Output

	FY 1977	FY 1978
Mineral patent applications processed	101	128
Mineral material appraisals and sales contracts completed	1,550	1,550
Material sites established	300	300
Free use permits issued	360	360
Compliance checks on material sales and free use permits	1,100	1,100

D. Pay Costs +$142,000; Total $142,000

The requested increase of $142,000 is the amount required to annualize the October 1976 pay raise for civilian employees in this activity.

E. Space

Public Law 92-313, Public Building Amendments of 1972, requires that effective July 1, 1974, agencies be charged for space and related services provided by the Genergy Services Administration (GSA) at approximate commercial equivalent rates. The estimated increased requirement for space and related services in GSA facilities based on rates supplied by GSA ($185,000) is included in the program increases in this activity. Total space cost included in the Energy and Mineral Management activity are $1,635,000.

2. Lands and Realty Management

Analysis of Activity

FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-)
$36,269,000	$35,779,000	$24,708,000	-$11,071,000

2. Lands and Realty Management: FY 1977 $35,779,000, FY 1978 $24,708,000; a net decrease of $11,071,000. The net decrease consists of:

Increases(+) or Decreases (-) Amount	Positions	Total Program	Total Positions	Explanation
A. Lands and Realty Operations				
(1) +$200,000	--	$ 8,091,000	308	Status and Records Management - To provide for the installation of a system for preserving Eastern States land records.
(2) -7,249,000	-130	5,502,000	208	Energy Related Realty - To transfer cost recoverable case work functions to the Service Charges, Deposits and Forfeitures receipt limitation appropriation as authorized by the Federal Land Policy and Management Act (P.L. 94-579).
(3)				
(a) +2,665,000	+30	10,541,000	330	Non-Energy Related Realty Alaska Native Claims Selection Act - To implement provisions of the Alaska Native Claims Settlement Act Amendments of 1976 and related new regulations.
(b) + 500,000	+10	500,000	10	Withdrawal Review - To provide the initial funding for reviewing all existing land withdrawals as required by the Federal Land Policy and Management Act (P.L. 94-579).
B. Trans-Alaska Pipeline				
(1) -4,110,000	-13	-0-	-0-	Pipeline Construction - Phase out monitoring and surveillance on pipeline construction activities.

	(2) -3,151,000	-33	-0-	-0-	Post Construction - Transfer post construction monitoring of Trans-Alaska pipeline operations to the Service Charges, Deposits and Forfeitures receipt limit appropriation as authorized by the Federal Land Policy and Management Act (P.L. 94-579).
C.	+ 74,000	--	74,000	--	To annualize the October 1976 pay raise for civilian employees.
D.	(+30,000)	--	(1,350,000)	--	Space Costs (included above)
	-$11,071,000	-136	$24,708,000	856	

PROGRAM SYNOPSIS

Lands and realty management provides for maintenance of public land records in thirteen offices, issuance of public land status and information about the public land and mineral laws, and the processing of lands applications (casework) for other Federal agencies, state and local governments, and private individuals. These activities include environmental analysis, environmental impact statement preparation, field examination, classification, appraisal, and making land use decisions for sales, leases, permits, and rights-of-way.

Increased requirements in FY 1978 have been identified in the status and records management program for accelerated installation of a system for preserving and managing records. In the energy related realty program, some capability associated with cost recoverable projects (including the Trans-Alaska pipeline) is transferred from the Management of Lands and Resources appropriation to the Service Charges, Deposits and Forfeitures receipt limitation appropriation. In the nonenergy realty program, special requirements have been identified to implement the provisions of the amended Alaska Native Claims Settlement Act and to initiate a comprehensive withdrawal review program.

A. Lands and Realty Operations: Fiscal Year 1977, $28,518,000; Fiscal Year 1978, $24,634,000; a decrease of $3,884,000.

MAJOR PROGRAM CHANGES

(1) Status and Records Management — +$200,000; Total $3,091,000
Total 308 Positions

Proposal. The requested increase will provide the capability to accelerate installation of the system for filming, indexing, storage and retrieval of all records (over 5,000,000 documents) at the Bureau's Eastern States Office. Public lands records for all States east of the Mississippi plus those of Louisiana, Oklahoma, Missouri, Iowa, and Minnesota are kept there. These records include patents, land status records, survey plats, and field survey notes. With the increase requested, the system will be installed and fully operative in 11 years.

83-561 O - 77 - 4

The increase will provide for temporary personnel including:
- refurbishers, who will get the records into condition for filming;
- microfilm operators who will do the filming;
- key punchers who will develop an index from the film.

Contracts will be let for film duplication and for maintenance of special equipment, such as reader-printers, which are also to be purchased.

EASTERN STATES LAND RECORDS NEED REFURBISHING

A unit of production consists of the filming, indexing, and storage of each patent, land status record, survey plat and field survey note. With the increase requested, 380,000 units are expected to be produced annually.

Justification. Custody and maintenance of public land records goes back to the early 1780's when this responsibility was vested with the General Land Office. The responsibility was transferred to the Bureau of Land Management when it was established in 1947. Maintenance of public land records includes providing an adequate level of service to both public and private users of the land and survey records. This includes continuing construction of new land status records in each State Office to replace original documents and installation of modern records management systems and techniques which include microfilming.

The land status and survey records held at the Eastern States Office are in a deplorable state. Thousands of users (on the average, 1,900 written queries and 200 phone calls a month)--private citizens, organizations, Federal agencies--call upon the office to study the public land records. Users purposes vary: some need the records for title search; some for genealogical research, and others for land ownership boundary determinations. Any study of the records requires extensive handling of the old documents--from storage to public reading rooms and return, from one location to another. All of these documents are originals or facsimiles often prepared over 100 years ago and, as such, are fragile, worn, and falling apart. Some documents are kept in protective plastic covers which allow use but do not eliminate the constant danger of damage when records are moved from one place to another. Each handling adds to general deterioration which will mean eventual obliteration or destruction.

One method applied in preservation is to microfilm the original, make useable copies available to the user from the print for a small fee and retire the original for permanent safekeeping. Installation of the system as rapidly as possible in order to avoid any further loss of irreplaceable legal and historical documents is imperative.

Cost Factors. Fourteen temporary man-years at an average cost of $10,200; $143,000; travel, $2,000; space, utilities, supplies and materials, $24,000; and equipment, $23,000; contracts for film duplication and maintenance of special equipment, $8,000.

PROGRAM DESCRIPTION

(1) Status and Records Management — +$200,000; Total $8,091,000
Total 309 Positions

Basic objectives for the maintenance of public land records are:

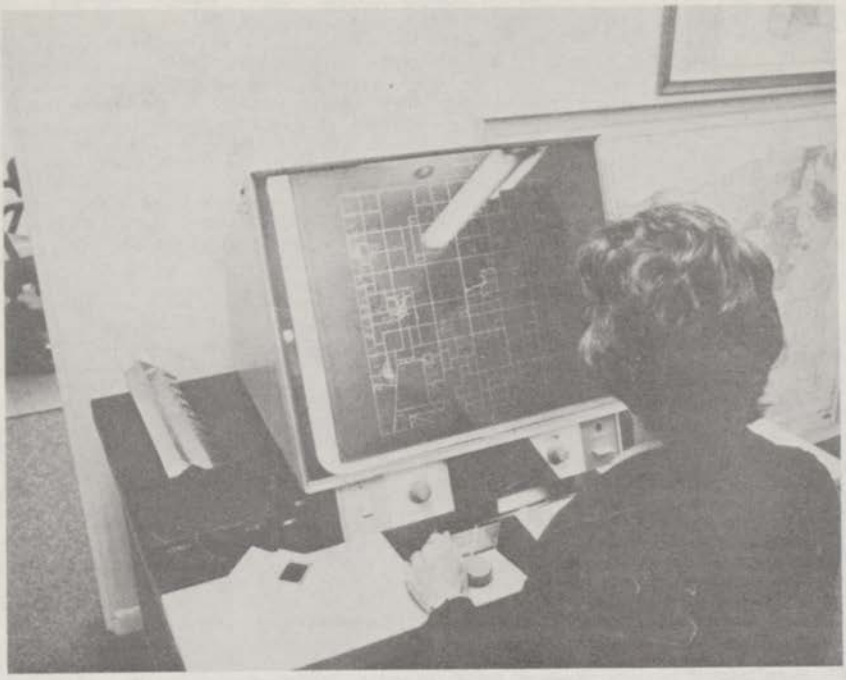
- improved service to the public and State and local government agencies through installation of modern systems to make it easier to find needed information and to obtain copies;

- provision of records support for operating programs of the Bureau and other public land management agencies, e.g. USFS;

- protection of all land records against loss or irreparable damage from constant use or disaster.

These public land records consist of survey plats, survey field notes, tract books, patents, mining claims (under authority of the Federal Land Policy and Management Act of 1976, P.L. 94-579), and related documents. Numerically, these include approximately 4-1/2 million patents and other conveyance documents and 5 million survey plats, survey field notes, and tract book pages. The physical condition of these records is fragile. Many of the records date back to the early 1800's. Many are badly worn and mutilated. It is estimated that restoration work is necessary on eight percent of these records before they can be microfilmed to an acceptable standard. The Bureau cannot effectively carry out its management responsibilities unless it has accurate and current information concerning the land it is responsible for and land transferred out of Federal ownership.

The records are in constant use both by the Bureau and the general public. Written requests for copies of patents and other conveyance documents average more than 3-4,000 per month. Also, numerous requests are received for land record information or copies of records. Constant genealogical research is being done by the public. In addition, nearly 250,000 simultaneous Oil and Gas filings being received and recorded monthly. Other new filings under the public land laws were being received at a rate of 12,000 to 15,000 annually up until passage of the Federal Land Policy and Management Act.



NEW RECORDS SYSTEM EQUIPMENT
IN USE AT THE ARIZONA STATE OFFICE

A modern visual land record system is being used to replace a system in use for more than 175 years. Upon completion of the microfilming, the historical records will be placed in the National Archives for preservation and safekeeping.

MAJOR PROGRAM CHANGES

(2) Energy Related Realty — -$7,249,000; Total $5,502,000
-130 Positions; Total 208 Positions

The Federal Land Policy and Management Act of 1976 (P.L. 94-579) has for the first time provided authority to the Bureau of Land Management to utilize receipts collected for costs related to the issuance and monitoring of right-of-way permits instead of depositing these receipts to the General Fund. The action portrayed here transfers Budget Authority in the amount of $7,249,000 and 130 positions from the Management of Lands and Resources appropriation to the proposed new Service Charges, Deposits, and Forfeitures receipt limitation appropriation. Remaining in the Management of Lands and Resources appropriation are funds to carry out rights-of-way projects for which cost recovery is not authorized, i.e., project applicants are municipalities or other local government entities; project costs are inputs where other Federal agencies have the lead on environmental impact statements; or where certain costs incidental to a cost recovery project are primarily for the benefit of the general public and therefore are not assessed against the applicant.

PROGRAM DESCRIPTION

(2) Energy Related Realty -$7,249,000 Total $5,502,000
-130 positions, Total 208 positions

An energy right-of-way project is described as the sum of a number of activities associated with the receipt and processing of a permit application, granting the permit, and finally compliance monitoring during construction and operation of the facility. The majority of projects require preliminary investigation which includes alternate site analysis; processing applications for rights-of-way and special land use permits; preparation of environmental impact statements (EIS) where required; appraisal and reappraisal of fair market value; construction supervision to insure compliance with stipulations, routing and other mitigating measures; and post construction compliance monitoring. Experience to date indicates the FY 1978 workload cost will be spread among the following categories:

Workload	$000
Preliminary Analysis	$ 789
Environmental Analysis and Impact Statement Preparation	3,633
Permit Issuance	540
Compliance	540
	$5,502

This program is highly manpower intensive as each project requires special types of expertise for environmental analysis and impact statement preparation. However, beginning in 1977, BLM has intensified the use of contractors for both data gathering and analysis activities on the larger projects to minimize the number of new personnel required. Smaller projects generally cannot be accomplished efficiently by contract as the time required for preparation of requests for proposals and supervising contract activities becomes disproportionate to the total effort required.

Dollar and manpower requirements vary from state to state depending entirely on the number and types of rights-of-way applications that are ongoing or contemplated. Currently known and identified projects which will require full or partial BLM involvement during FY 1978 includes:

- over 800 small projects estimated to cost less than $5,000, primarily short transmission lines; these smaller projects, for which standard fees rather than actual costs are charged, will remain in the Management of Lands and Resources funded part of the program, with applicable revenues continuing to be treated as general fund receipts,

- twenty projects with other Federal agency lead responsibility to which BLM provides some input,

- six projects for which applications were received from the public section, i.e., Federal State, or local government agency; and

- costs on all projects for executive direction of the total program which is specifically excluded from cost recovery procedures by Public Law 94-579.

MAJOR PROGRAM CHANGES

(3) Nonenergy cy +$3,165,000; Total $11,041,000
+40 Positions; Total 340 Positions

a. Alaska Native Claims Settlement Act - (ANCSA) (+$2,665,000; +30 Positions)

Proposal. On January 2, 1976, the President signed Public Law 94-204, amending the 1971 Alaska Native Claims Settlement Act (ANCSA). The amendments impact BLM's Alaska Lands and Realty Management activity workload in several major ways.

Section 2 of the new Act establishes an escrow account for all revenues from lands or resources of lands withdrawn for Native selection. Segregation of revenues for deposit to this account is a major new workload. Because of the schedule imposed in the Act to implement Section 2, work is underway through shifting capability from other Native Claims work.

Section 12 of the new Act provides for a three-way (Federal, State and Natives) agreement to make adequate lands available for selection by Alaska Natives in the Cook Inlet Region, Inc. (CIRI). To implement Section 12, BLM needs additional manpower to process conveyances to the State and CIRI. The increase includes $750,000 and 10 permanent positions for this effort. This increase will include adjudicators to meet the adjudicative workload generated from the passage of this section; appraisers and funds for contract appraisal work; cartographic services to meet the increase demand for new and different maps; and land records notation clerks.

In addition to the workload specifically mandated by the new Act, the number of currently pending lands cases in Alaska under the ANCSA Act of 1971 and other laws has increased to over 15,000; this is beyond our present Bureau capabilities. The backlog is due in part to unanticipated "bunching" of applications and, in part, to low estimates of the effort required for processing, posting, and adjudicating cases. The increase includes $819,000 and 14 permanent positions for case backlog reduction. Given the current rate of case closures of about 42 cases per year per land law examiner, an additional 14 employees will increase closures to an average of about 2,200 cases per year.

ANCSA calls for easement identification, and reservation before conveyance. Six permanent positions and $296,000 are requested for this program aspect. Easement activities include on-the-ground location and posting, documentation of use, and management agreements.

New regulations also require publication of selection applications. Costs for public requirements were calculated based on a detailed listing of the number of lines per document (applications amendment, or decision for interim conveyance) to be printed multiplied by the average cost per line, and number of publications. This request is for $800,000 to cover one third of a total 3 year cost of $2,400,000.

An FY 1977 supplemental request of $840,000 to initiate the ANCSA activities described above is proposed concurrently with the 1978 Budget.

Justification. All of the proposed actions are related specifically to the dictates of ANCSA which specify "immediate" conveyance of title to lands selected by the Native villages and corporations. The Bureau is acting as expeditiously as possible to carry out its responsibilities under the law. Each increase request deals specifically with a requirement either previously unforeseen, i.e., Section 12 of the amended ANCSA; or through a policy change which directed the Bureau to respond, i.e., easement management, a switch from the Joint Federal-State Land Use Planning Commission to the Bureau; or new regulations, i.e., the requirement for publication.

Cost Factors. Thirty permanent positions at an average cost of $19,500, $585,000; thirty-two temporary man years at an average cost of $14,500, $464,000; travel and transportation, $392,000; rent, communication, utilities and supplies and materials, $203,000, printing and reproduction and other services, $920,000; and equipment, $96,000.

b. Withdrawal Review - (+$500,000 + 10 Positions)

Proposal. Section 204 of the Federal Land Policy and Management Act of 1976 (P.L. 94-579) identifies the following new withdrawal related requirements:

(1) Complete processing within 15 years (by October 21, 1991) all pending withdrawal applications as of October 21, 1976, and

(2) Review within 15 years (by October 21, 1991) all existing withdrawals as of October 21, 1976.

In order to meet these requirements within the mandated time frame, an inventory of all withdrawals and a review of the technical language and conditions of each is needed. A total of ten positions, one in each BLM Western State Office, (except Alaska) will initiate the inventory.

Justification. In addition to the need to determine the extent of limitations on mineral exploration, a number of other objectives will be served. A withdrawal review resulting in a change of status can make lands available for alternative purposes. These would include mineral leasing, recreational purposes, hunting, rockhounding, and other leisure time pursuits. Other lands may be open for development while some may serve the special needs of state and local government for parks or sanitary land fills. The increase requested will begin a systematic review of all withdrawals making or recommanding changes where appropriate.

Cost Factors. Ten permanent positions at an average cost of $16,300, $163,000; twenty-two temporary man years at an average cost of $11,000, $242,000; travel, $8,000; rent, communcation and utilities, supplies and materials $70,000; and equipment, $17,000.

PROGRAM DESCRIPTION

(3) Nonenergy Realty — +$3,165,000; Total $11,041,000
+40 Positions; Total 340 Positions

Nonenergy Realty can largely be described as lands casework. This work includes environmental analysis; field examination; design of stipulations or reservations, as appropriate; appraisal, adjudication, and compliance. At the end of FY 1976 the Bureau, after having closed 11,624 cases during the fiscal year, had a backlog of 20,800 nonenergy related lands cases (desert land applications, native allotments, homesteads, exchanges, sales, recreation and public purposes, withdrawals, and restoration applications).

The record for the last six years showing land case application and land case closure (processing) activities indicates an annual average of 11,500 new and reactivated cases (low of 9,400 in 1971 - high of 16,200 in 1976) and an annual average of 9,000 case closures (low of 7,600 in 1971 - high of 11,600 in 1976). Increasing population density is resulting in increases in the demand for land and for the use of land.

B. Trans-Alaska Pipeline: Fiscal Year 1977, $7,261,000; Fiscal Year 1978, -0-; decrease of $7,261,000.

MAJOR PROGRAM CHANGES

B. Trans-Alaska Pipeline — -$7,261,000; Total -0-
-46 Positions; Total -0- Positions

Proposal. Construction of the Trans-Alaska Pipeline is on schedule. Assuming the construction schedule is maintained, the third quarter of calendar year 1977 will see a system in operation capable of delivering 600,000 bpd (barrels per day) at the Valdez terminal. By the end of calendar year 1977 the capability will double to 1,200,000 bpd. At that point the essential character of monitoring and surveillance of the project will change. The current staff which includes the Authorized Officer's pipeline staff and a contractor - Mechanics Research, Inc., will phase out at the end of FY 1977 from managerial, administration, design review, and compliance surveillance, conducted during construction of the pipeline. Post construction operations and maintenance monitoring procedures will then go into effect. This proposal indicates that the change in the nature of surveillance will result in a decrease of $4,110,000 in funding required for this program.

The proposal also reflects a shift in the financing of this activity from the Management of Lands and Resources appropriation to the Service Charges, Deposits, and Forfeitures receipt limitation appropriation. This transfer of $3,151,000 will consolidate in one account, those right-of-way activities which are financed by recovery of actual costs incurred.

THE TRANS-ALASKA PIPELINE

Justification. The change in the nature of the pipeline project - from construction to operation and maintenance - requires a smaller staff for a program of Operations and Maintenance monitoring. The nature of project, being cost recoverable, permits it to be transferred to the Service Charges, Deposits, and Forfeitures receipt limitation appropriation.

C. Pay Costs +$74,000; Total $74,000

The requested increase of $74,000 is the amount required to annualize the October 1976 pay raise for civilian employees in this activity.

D. Space

Public Law 92-313, Public Buildings Amendments of 1972, requires that effective July 1, 1974, agencies be charged for space and related services provided by the General Services Administration (GSA) at approximate commercial equivalent rates. The estimated increased requirement for space and related services in GSA facilities based on rates supplied by GSA $30,000 is included in the program increase in this activity. Total space costs included in the Lands and Realty Management activity are $1,350,000.

3. Renewable Resources Development, Protection and Management

Analysis of Activity

FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-)
$54,656,000	$60,877,000	$63,974,000	+$3,097,000

3. Renewable Resources Development, Portection and Management: FY 1977, $60,877,000: FY 1978 $63,974,000; an net increase of $3,097,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) Forest Management				
(1) -$73,000	-4[a/]	$4,654,000	154	Forestry, Public Lands - To transfer access functions to the Acquisition, Construction, and Maintenance appropriation.
(2) -0-		$1,314,000	26	Forestry, Western Oregon - No change.
(B) Range Management				
(1) +$326,000	-6[a/]	$21,562,000	521	Livestock Management - To transfer access acquisition functions to the Acquisition, Construction, and Maintenance. appropriation (-$74,000) and to establish forty-four grazing advisory boards (+$400,000).
(2) -0-	-0-	$2,181,000	31	Wild Horse & Burro Mgmt. - No change.
(3) -0-	-0-	$156,000	5	Endangered Resource Protection - No change.
(C) Recreation Management				
(1) +2,378,000	+4[a/]	$7,904,000	140	Recreation Resource Mgmt. To accelerate the review of all existing primitive and natural areas and roadless areas on public lands (+$1,200,000); to transfer access functions to the Acquisition, Construction, and Maintenance appropriation (-$22,000); and accomplish recreation visitor management and to protect the resources in the fragile California Desert (+$1,200,000)

(2) -0-	-0-	$913,000	22	Cultural Resource Mgmt. - No change.
(3) -0-	-0-	$250,000	7	Visual Resource Mgmt. - No change.
(D) Soil, Water, & Air Management				
+$378,000	-2 a/	$11,267,000	262	To transfer access function to the Acquisition, Construction and Maintenance appropriation (-$4,000) and to provide for increased costs for employee compensation payments (+$382,000).
(E) Wildlife Habitat Management				
-$2,000	-2 a/	$5,379,000	117	To transfer access functions to the Acquisition, Construction and Maintenance appropriation.
(F) Fire Management -0-	-5 a/	$8,304,000	207	Fire Mgmt.- No change.
(G) Pay Increase Costs +$90,000	-0-	$90,000	-0-	To annualize the October 1976 pay raise for civilian employees.
(H) Space (+$35,000)	-0-	($1,950,000)	-0-	GSA space costs included above.
+$3,097,000	-17	$63,974,000	1,492	

a/ (1) Proposed position transfers to the new "Working Capital Fund" as follows: Forestry, public lands - 1; Range Management - 5; Soil, Water and Air Management - 2; Wildlife Habitat Management - 2; Fire Management - 5.
(2) Proposed position transfers to "Acquisition, Construction and Maintenance" for the access function as follows: Forestry, public lands - 3; Range Management - 3; Recreation Management - 1.

PROGRAM SYNOPSIS

The basic objectives of programs in the "Renewable Resource Development, Protection and Management" activity are: 1) to provide for production, development, and utilization of resources which, by their nature, are available on a continuing basis; and, 2) to make them available in a manner which is consistent with other multiple use objectives and with acceptable environmental impacts. Range watershed, and wildlife management programs operate in concert to stabilize and improve public rangeland, soil, watershed, and wildlife habitat. The range management program also encompasses protection, control, and management of wild horses and burros. Recreation management activities are directed to developing and conserving recreation resources on public lands, while forest management efforts are directed to providing sustained yield timber harvests. Finally protection of public lands from uncontrolled wildfire and other disruptive influences helps insure their productive capacity.

Significant increased requirements in FY 1978 have been identified in the Recreation Management Program for Wilderness Review areas, and visitor use management on the California Desert.

A. Forest Management: Fiscal Year 1977, $6,041,000; Fiscal Year 1978, $5,968,000; a decrease of $73,000.

TOTAL PROGRAM FUNDING

The overall objectives of the forest management program are met through funding in Management of Lands and Resources and three receipt limitation appropriations as follows:

	($000)		
Management of Lands and Resources	FY 1977	FY 1978 Change	FY 1978
Forest Management - Outside Western Oregon	4,727	-73	4,654
Forest Management - Western Oregon	1,314	--	1,314
Total MLR	6,041	-73	5,968
Supportive Functions from other Appropriations			
PLDRT (P.D. obligations)	1,825	-1,825	--
Acquisition, Construction & Maintenance		+1,473	1,473
Forest Functions in other Appropriations			
O&C Fund[1/] (Obligations)			
Road Construction and Acquisition	3,885	+610	4,495
Renewable Resources Development Protection & Management	22,159	+3,787	25,946
Road Maintenance	4,757[2/]	--	4,757
Expenses, Road Maintenance Deposits	700		700
Service Charges, Deposits & Forfeitures		+800	800
Total BLM Forest Management (all appropriations)	367	4,772	44,139

1/ Excludes USFS obligation program
2/ Adjusted to exclude $3.2 million non-programatic one-time payment to Federal Highway Administration for undepreciated value of road maintenance equipment transferred to BLM.

MAJOR PROGRAM CHANGE

A. Forest Management	-$73,000; Total $5,968,000 -4 Positions; Total 180 Positions
(1) Forest Management, Outside Western Oregon	-$73,000; Total $4,654,000 -4 Positions; Total 154 Positions

Proposal. The $73,000 reduction is the proposed transfer of the access function to the Acquisition, Construction, and Maintenance appropriation. This financing change consolidates all acquisition activities in a single subactivity to facilitate budget review and internal management of this function.

PROGRAM DESCRIPTION

Objectives of the forest management program are to intensively manage commercial forest lands available for timber production; to provide the maximum amount of timber from the public lands on a sustained-yield basis; and to be responsive

to other public needs by providing fuelwood, Christmas trees, pinon nuts and other minor products from the Bureau's forests and woodlands. These objectives will be met in a manner consistent with other multiple-use objectives and enviornmental quality requirements.

In addition to offering 65 million board feet (MMBF) of timber in FY 1978, the Bureau will also process nearly 13,000 small negotiated sales and free-use permits to be responsive to increased demand for fuelwood, posts, poles, and a variety of other public land forest products. In recent years, rising prices for the more conventional fossill fuels have influenced many people to supplement their home-heating with firewood. Since 1972, demand for fuelwood from the public lands has nearly doubled. The majority of this demand has been accommodated through small negotiated sale and free-use permits.

TIMBER HARVEST IN OREGON

(2) Forest Management Western Oregon

No change: Total $1,314,000
Total 26 positions

No change is proposed in the Management of Lands and Resources appropriation funding for forest management in Western Oregon. Funds identified here are the minimum necessary to carry out forestry and related functions on the intermingled BLM administered public lands in Western Oregon. They are combined with O&C Grand Land Funds to provide the total forest management capability for all BLM lands in the Western Oregon region. The lands, managed under intensive management practices, are producing timber at a maximum sustained yield of 1.172 billion board feet annually. See page 152for O&C Fund Program descriptions of BLM forest management in Western Oregon

The FY 1978 public domain forestry program will include:

- Volume of timber offered	65 MMBF
- No. regular advertised sales and timber sales administration	45
- No. small negotiated sales and sales administration	8,000
- No. free-use permits and permit administration	5,000
- Reforestation (est. 50 projects)	2,000 Acres
- Stand Improvement (est. 25 projects)	1,000 Acres

In 1976, the Bureau completed a reinventory of 2.2 million acres of public domain commercial forest lands. Based on this inventory, approximately 1.5 million of these acres are available for intensive timber management and have the capability of producing 130 million board feet of timber annually.

The Fiscal Year 1978 program is a continuation of Fiscal Year 1977 efforts; it reflects the results of added manpower and funding in Fiscal Year 1977. Of particular note, however, are the increased incremental outputs, primarily in regular timber sale offerings, which will be realized under current manpower and funding levels through Fiscal Year 1981. Timber production, for example, will accelerate from 58 million board feet (MMBF) in Fiscal Year 1977 to 85 MMBF in Fiscal Year 1981 at current funding levels. Other efforts, particularly reforestation and commercial and precommercial thinning, will also increase proportionately to insure increased growth needed to continue the harvest of timber at both current and projected levels. The small but gradual increase in productivity results from shifts in the inventory work that has been a prerequisite to an expanded timber sale program. It permits the necessary lead-time for preparing both short and long-range timber sale plans, access acquisition and survey of timber sale boundaries. A gradual increase in timber sale offerings also allows diversion of manpower and funding to the preparation of environmental impact statements for the timber management programs in Idaho and California. These environmental statements and other environmental assessments, are requisite under the court approved agreement between the Secretary of the Interior and the Natural Resource Defense Council concerning the Bureau's timber management program (Ref. NRDC et, al, v. Kleppe, et. al).

Although it is recognized that the public domain forests lands contribute less than 10 percent of the Bureau's total timber production, it is essential to the Nation and the economy that all commercial forest lands available for timber production contribute their "fair share" in preventing or alleviating a predicted timber short-fall by 1980. Further, continued timber production at current and projected levels is important at the local level since some small communities and sparsely populated counties and regions are highly dependent upon the harvest, manufacture, and transportation of timber derived from public lands.

B. Range Management: Fiscal Year 1977, $23,573,000; Fiscal Year 1978, $23,899,000; a total net increase of $326,000.

TOTAL PROGRAM FUNDING

Capability to meet the objectives of the Range Management program is provided through two appropriations - Management of Lands & Resources and the complementary Range Improvement Fund. Total funding for Range Management is as follows:

	($000) FY 1977	FY 1978 Increase	FY 1978
Management of Lands & Resources			
Wildhorse & Burro Management	$ 2,181	--	$ 2,181
Livestock Management	21,236	$ 326	21,562
Endangered Resource Protection	156	--	156
Total MLR	23,573	326	23,899
Range Improvements			
Livestock Management Improvements	7,370	1,380	3,750
Total Range Program	30,943	1,706	32,646

MAJOR PROGRAM CHANGES

(1) Wild Horse and Burro Management — No Change.

PROGRAM DESCRIPTION

(1) Wild Horse and Burro Management — Total $2,181,000
Total 31 Positions

The Wild and Free-Roaming Horse and Burro Act (P.L. 92-195) provides for the protection, regulation and management of wild and free roaming horses and burros on BLM lands. In response to the Act, BLM is to manage wild and free roaming horses and burros as a component of the range ecosystem in conjunction with other resource values on public lands. As of May 1, 1976, there were an estimated 53,300 horses and 6,700 burros on the public lands. That number represents an increase of 13,600 horses in the past 12 months and an increase of 43,000 horses and burros over the numbers estimated when the Act passed. In May of 1976, BLM still had applications pending claiming ownership for 11,100 animals, although the period for filing a claims has expired and no further claims are anticipated. The claiming process requires publication of claims, public meetings and hearings which BLM must conduct, close cooperation with State and local brand inspectors and final adjudication of claims.

Capture of horses on the open range has been an exasperating and nearly impossible task. Since the Act was originally passed in 1971, only 2,634 animals have been captured. The use of helicopters and the use of motor vehicles to transport captured horses and burros authorized by the Federal Policy and Management Act of 1976 will help increase the efficiency of BLM's capture efforts.

Horses and burros are presently multiplying at an estimated rate of 20-30 percent per year and in some areas are depleting available forage. Excessive numbers not only adversely impact livestock and wildlife through competition for available feed and water, but become detrimental to the horses themselves as populations exceed forage supply. Recent experience with wild horse roundups in Nevada and Oregon indicates removal of excess number is difficult, time comsuming, and expensive. Cost per animal removed ranges from $300 to $400 under old procedures depending on features of the area and existing

facilities. In the future, as many as 15,000 head of horses and burros may have to be removed annually from the Public Lands to protect the rangeland ecosystems. Additionally, removal of wild horses and burros from private lands, when requested, is the reponsibility of BLM.

Present program capability is being directed to processing backlogged claims, removal where over use and resource damage is extensive, determination of population levels and control methods, development of management plans, research, management of the adopt-a-horse program, and surveillance.

WILD BURROS IN THE ALAMO LAKE AREA OF ARIZONA

MAJOR PROGRAM CHANGES

(2) Livestock Management — +$326,000; Total $21,562,000
-8 Positions; Total 521 Positions

Proposal. The increase of $326,000 is a net change resulting from an increase of $400,000 for establishment of forty-four grazing advisory boards and a decrease of $74,000 to transfer certain access function to the Acquisition, Construction and Maintenance appropriation.

Justification. The Federal Land Policy and Management Act of 1976 (P.L. 94-579) authorized the establishment of advisory boards not to exceed 15 members for each BLM district office having jurisdiction over more than 500,000 acres. There are 44 BLM districts that fit the criteria.

Cost Factors. Eight temporary man-years at an average cost of $10,125, $81,000; Travel (primarily reimbursement of Board members expenses), $240,000; Rent, communication, printing, other services, supplies and materials, $72,000; and equipment, $7,000.

PROGRAM DESCRIPTION

(2) Livestock Management

Total $21,562,000
Total 521 Positions

Objectives of this program are to rehabilitate the public lands and to help stabilize the livestock industry dependent upon Federal rangelands as prescribed by the Taylor Grazing Act of June 28, 1934 and the Federal Lands Policy and Management Act of 1976 (P.L. 94-279). Domestic livestock grazing as the most widespread, single comsumptive use of public land resources, impacts over 150 million acres of public lands in the Western States. Control over this use, in combination with supervision and intensive grazing management practices, and installation of facilitating projects, can bring about beneficial changes in soil, water, vegetation and wildlife habitat conditions.

Following passage of the Taylor Grazing Act, grazing management consisted principally of issuing use authorizations with minimal control, supervision, evaluation of the resources, and land use planning. During the 1950-1960 period, BLM began a program to inventory rangeland forage and balance livestock use with forage production. In 1964, the AMP (Allotment Management Plan) program was started on a limited scale and has proven successful in serving the needs of wildlife habitat, watershed, and recreation as well as stabilizing livestock use through improved range conditions. The AMP is an action plan for a designated area designed to improve general rangeland conditions by intensive management of livestock. Each AMP is designed to accomplish specific objectives and includes a number of studies which are used to monitor the effectiveness of grazing management in accomplishing the stated objectives. Studies on allotments covered by properly supervised AMP's generally indicate that intensive livestock management has all but halted the declining long-term trend in range condition. Trend studies on AMP areas show that 54 percent of the acres are improving, 42 percent are in static condition, and only 4 percent of the acres continue to show a declining trend.

Early in 1975, a U.S. District Court ruled in Natural Resource Defense Council (NRDC) vs. Morton, that BLM's programmatic grazing environmental impact statement (EIS) was inadequate and directed that Interior and NRDC to confer and determine whether a time schedule could be agreed upon for preparing site specific EIS's. Under terms of the court-ordered agreement, BLM will complete 212 EIS's over a 13 year period and no new AMP's will be implemented prior to completion of an EIS on each specific area and will require completion of approximately 890 AMP's. The first EIS is now being completed for Challis, Idaho area and the schedule calls for completion of 12 EIS's during FY 1978.

83-561 O - 77 - 5

CATTLE GRAZING ON AREA MANAGED
UNDER AN ALLOTMENT MANAGEMENT PLAN

A portion of the increased program capability provided by the Congress in FY 1976 has been directed to development of the EIS's according to schedule, while FY 1977 Congressional increases are planned exclusively for project implementation, wild horse management and use supervision. Other administrative work must continue. This includes issuance of about 24,000 use authorization to utilize approximately 12 million AUM's (animal unit months) of forage by about 9 million head of livestock. Applications for transfers of grazing privileges, requests for changes in classes of livestock, and cooperative efforts with livestock associations and other Federal and state agencies will continue. In addition, capability must be committed to supervision, study and evaluation of 1,158 existing Allotment Management Plans (AMPs) on 26 million acres to insure objectives are being met, and to identify where modification of existing plans may be necessary.

Completion of 11 EIS's in FY 1977 will permit AMP implementation and facility development work in these areas during FY 1978. Benefit-cost analysis procedures will be used as a guide for selection of approximately 200 of the highest priority AMP's in these 11 EIS areas. Implementation includes site analysis, contract preparation, and contract administration.

Estimated Project Work Accomplishments in FY 1978*

Feature	Workload Measure
Environmental Impact Statements	13 EIS
Activity Planning	
Allotment Management Plans	890 plans
Project Plans	450 plans
Inventory and Analysis	
Resource Inventory	30,000,000 acres
Unit Resource Analysis	90 units
Use Supervision	
Allotment Management Plans	1,100 plans
Resource Production and Water Development *	
Seeding and planting	2,000 acres
Reservoirs	20 each
Springs	25 each
Storage tanks, pipelines, etc.	58 each
Fences	200 miles

* Additional project accomplishments are funded by the Range Improvements Fund (See page 163).

Maintenance of improvements is the remaining major element of work in the livestock management program. It is achieved on a shared arrangement with livestock operators. Over the last several years, most plans call for operators to maintain fences and wells, whereas BLM maintains most water pipelines and earth structures. Exceptions to this generalization are usually based on instances where significant multiple use benefits are derived from a facility which is not needed by the livestocks operator year round for his operations.

Maintenance	
Fences	20 miles
Water Developments	250 each
Land Treatments	2,500 acres

MAJOR PROGRAM CHANGES

(3) Endangered Resource Protection	No Change.

PROGRAM DESCRIPTION

(3) Endangered Resource Protection	Total $156,000 Total 5 Positions

Objectives of this program are to carry out the requirements of the Endangered Species Act of 1973 (ESA) which are to insure that BLM's programs and actions do not: (1) jeopardize the continue existance of officially listed threatened or endangered species or; (2) destroy or adversely modify any critical habitat of such species. In addition, BLM is required to utilize its authority to conserve listed species and habitats on which they depend. It is anticipated that by FY 1978 more than 200 plants found on BLM administered lands will be officially listed under Section 4 of the Act and protected under mandatory provisions of ESA.

Minimum compliance with the Act will require inventories to determine the present range of listed plant species and location of suitable or critical habitat. Ecological studies will be necessary to judge what BLM actions could be harmful to endangered plant habitat and what protection or conservation programs could be enployed to enhance habitat. The Act provides both civil and criminal provisions for non-compliance on the part of the Federal manager. It also gives standing for citizen groups to file suit to enforce compliance.

On June 16, 1976, the Director, U.S. Fish and Wildlife Service, issued a proposed rulemaking which would determine whether approximately 1,700 native vascular plants would be classed as endangered species, pursuant to Section 4 of ESA. Determination that a plant is a threatened or endangered species would, among other things, make that species subject to the prohibitions of Section 9(a)2 of the Act. This includes import/export restrictions and restrictions on movement of trade in foreign or interstate commerce. Listing would also make these plants eligible for protection provided by Section 7 of the Act, which calls for programs to conserve the species, prohibits actions which may jeopardize the species, and prohibits destroying and adversely modifying critical habitat.

C. Recreation Management: FY 1977, $6,689,000; FY 1978, $9,067,000; an increase of $2,378,000.

TOTAL PROGRAM FUNDING

The objectives of the Recreation Management program are met through funding in several appropriations as displayed below.

	($000) FY 1977	FY 1978 Increase	FY 1978
Management of Lands & Resources			
Recreation Resource Management	$5,526	+$2,378	$7,904
Cultural Resource Management	913	--	913
Visual Resource Management	250	--	250
Total MLR	6,689	+ 2,378	9,067
Support Functions from Other Appropriations			
Acquisition, Construction and Maintenance			
Recreation Construction	453	+647	1,100
Recreation Maintenance	2,964	+100	3,064
Acquisition Road & Trail Construction	1,807	-187	1,620
Total, Acquisition, Construction and Maintenance	5,224	+560	5,784
Recreation Dev. & Operation of Rec. Facilities	300	--	300

Recreation Functions in Other Approp.

O&C (BLM Obligation Program)			
Construction	1,004	+63	$1,067
Maintenance	835	+100	935
Total, O&C Grant Lands	1,839	+163	2,002
Total Recreation Program	14,052	3,101	17,153

RECREATION USE ON THE IMPERIAL DUNES, CALIFORNIA

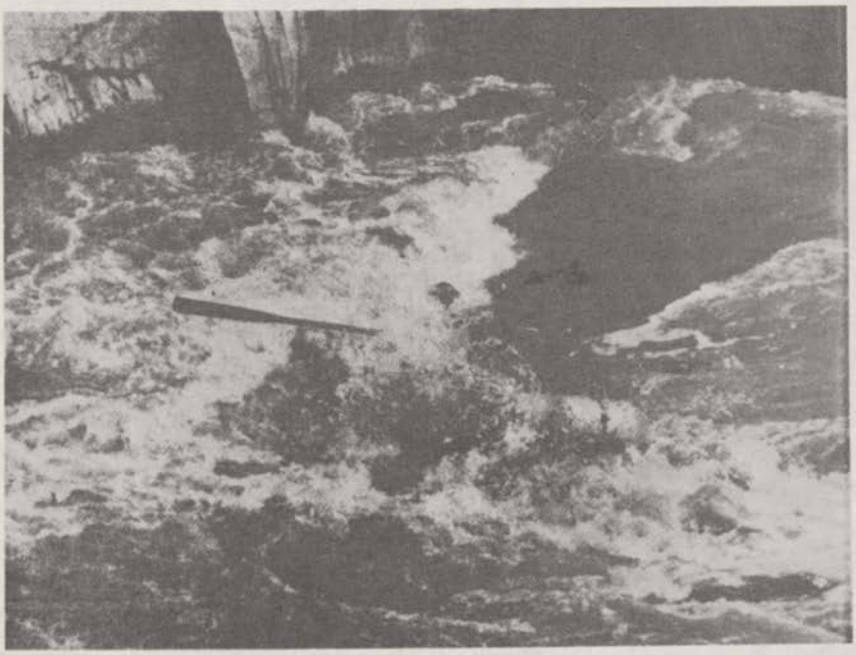
MAJOR PROGRAM CHANGES

(1) Recreation Resource Management: +$2,378,000; Total $7,904,000
+4 Positions; Total 140 Positions

Proposal. The $2,378,000 is a net increase and is derived from a $1,200,000 increase for Wilderness Review, a $1,200,000 increase for the California Desert Conservation Area and a decrease of $22,000 to transfer the access function to the Acquisition, Construction, and Maintenance appropriation.

The increase for Wilderness Review will provide for a study of public land primitive and natural areas to determine which ones can be included in the National Wilderness System as directed by the Federal Land Policy and Management Act of 1976 (P.L. 94-578). Included are funds for required mineral surveys of these areas by the Bureau of Mines and the Geological Survey.

For the California Desert, the increase will be used to execute an interim program to manage the use, and protect desert lands and their resources which are in danger of destruction.



SKULL RAPID IN WEST WATER CANYON, ON THE COLORADO RIVER

Justification: Recreational use of public lands is increasing; the 1974 level of 75 million visits rose to 79 million visits in 1975. Recreational use is as varied as the land itself; solitary hikers and commercial pack trips, users of primitive areas and of high intensity recreation areas, single motorcycle riders and off-road vehicle events with thousands of entrants. BLM has never had the capability to adequately manage the recreational use of the public lands. Thus the increased public use has resulted in increased destruction of resources, conflicts between types of recreation use, and injuries or deaths of significant numbers of recreationists. The requested increases are oriented to priority management responsibilities, namely protection of primitive and wilderness values and promotion of visitor safety in the California Desert.

Wilderness Review: Many areas containing unique and irreplaceable natural and primitive values have already been identified through the BLM planning system and have been formally designated as primitive or natural areas. The Federal land Policy and Management Act of 1976 (P.L. 94-579) now requires that these classifications be reviewed and that these areas be considered for possible inclusion in the national wilderness system. The Bureau will review all BLM areas and report on an estimated 600,000 acres by the required date of July 1, 1980.

A substantial portion of the proposed increase will be made available to the Geological Survey and Bureau of Mines who are required by law to conduct mineral surveys on each wilderness study area to determine mineral values. Approximately 300,000 acres will be examined by these agencies in 1978.

California Desert Interim Management: Visitor use days on the Desert were estimated at 14 million in 1975 and are increasing by 10% each year. BLM currently does not have the capability to properly manage this use. As a result nearly 1,000 serious injuries were reported in the desert; the Riverside BLM District reported 58 recreation related deaths. Most of these occurred on unmanaged areas where visitors are exposed to hazards such as abandoned mine shafts, discarded explosives, over-exposure, etc. In addition, many unique and irreplaceable resources are in danger of destruction through vandalism or unregulated use. For example, there is little control over 90-95% of unorganized off-road vehicle (ORV) use, and supervision of over 200 organized ORV events held annually is inadequate.

The Federal Land Policy and ManagementAct of 1976 (P.L. 94-579) requires the Secreatary to execute an interim program to manage, use and protect the desert public lands and their resources. This proposal will expand the interim management effort initiated prior to passage of the Act and will provide for an additional 5 permanent Desert Rangers. Increased funds would also be used to hire additional temporary positions to supervise and regulate organized off-road vehicle events and to provide increased contract work now needed to reduce hazards and to protect critical resource values.

"ROCKHOUNDS" DIGGING FOR THUNDEREGGS IN OREGON

Access Function. This decrease of $22,000 and one permanent position is a transfer in the estimates to "Acquisition, Construction, and Maintenance" to consolidate access funding in one subactivity and one appropriation.

Cost Factors (Increases). Five permanent positions at an average cost of $14,900, $75,000; forty-two temporary man-years at an average cost of $13,200, $556,000; travel, $141,000; rent, communication, supplies, and materials, $100,000; contractual services, $1,455,000, and equipment, $73,000.

PROGRAM DESCRIPTION

(1) Recreation Resource Management — +$2,578,000; total $7,904,000
+4 positions; total 140 positions

Objectives of the BLM recreation resource management program are two-fold: management of the recreation resource itself and provision for the recreation visitor. In concert with other governmental agencies and private enterprise, the Bureau identifies, evaluates, develops, administers, and protects recreation resources on over 400 million acres of public lands to help meet the outdoor recreation needs of the Nation. Approximately one-third of this acreage is located in the 11 western states, and 6 million acres are within 40 miles of 16 major population centers. By the year 2000, the population of the United States is expected to double, and demand for recreation is expected to triple.

A multitude of recreational uses occur on the public lands, both commerical and general public such as river running, hiking, horseback riding, motorcycling, and other off-road vehicle use, hang-gliding, camping, rock-hounding, sight-seeing, ad infinitum. To manage these uses, many different facilities are developed: campgrounds, roads, hiking trails, boat access, interpretive exhibits, way stations, off-road vehicle trails, etc.

Functionally, the Bureau's recreation resource management program includes:

- Inventory to identify and evaluate all recreational resources and opportunities;
- Management planning to determine the most appropriate use or combination of uses of the recreational resources;
- Special studies to analyze specific problems related to recreational resources or recreational use;
- Review natural, primitive, and roadless areas for possible wilderness designations
- Facility development for resource protection and visitor safety;
- Information programs such as signing, brochures, interpretive exhibits, and way stations (visitor centers) to encourage proper use of public lands.
- Hazard reduction programs to increase visitor safety;
- Visitor management to minimize user conflict and maximize visitor safety; and

To maximize recreational opportunities and minimize user conflects, special areas are sometimes designated for specific uses. Examples of these special management areas are:

- Wild and Scenic Rivers
  - designated rivers; Rio Grande, New Mexico; Rogue, Oregon; and the Upper Missouri, Montana.
  - legislated study rivers include, but are not limited to Salmon, Idaho; Forty-mile, Alaska; John Day, Oregon; Delores, Colorado; and the American, California.
- National Trails
  - designated trails: Pacific Crest, Washington/Oregon/California; Pinnell Mountain, Alaska; King Range, California; Organ Mountain, New Mexico; and South Yuba, California.
  - Study trails include, but are not limited to the Oregon Trail; Pony Express Trail; Lewis and Clark Trail; and Alaska Gold Rush Trails.
- Primitive Areas
  - include: Aravaipa Canyon, Arizona; Grand Gulch, Utah; Humbug Spries, Montana; Powerhorn, Colorado; Scab Creek, Wyoming.
- Research Natural Areas
  - include: Halibut Cove, Alaska; McElmo Reptile, Colorado; Shoshone Pygmy Sage, Nevada; Jordans Craters, Oregon; Cleveland-Lloyd Dinosaur Quarry, Utah.

Outstanding Natural Areas

. include: Vermillion Cliffs, Arizona; Negit Island, California; Leviathan Cave, Nevada; El Malpais, New Mexico; Valley of the Giants, Oregon, Devils Garden, Utah.

MAJOR PROGRAM CHANGES

(2) Cultural Resource Management — No Change.

PROGRAM DESCRIPTION

(2) Cultural Resource Management — Total $913,000
Total 22 Positions

Cultural resources - finite, nonrenewable, and fragile - are rapidly being removed from their scientific and cultural context before their importance and true value can be assessed. Deliberate vandalism, uncontrolled recreation use, and even inadequate inventories prior to Federal actions on lands all contribute to destruction of cultural resources.

The Bureau's cultural resource management program is aimed at identifying, evaluating, managing, and protecting cultural resources on public lands and ensuring that Bureau or Bureau-approved programs or projects do not inadvertently affect cultural resources. The cultural resource management program includes the following elements:

- a systematic inventory system to identify and evaluate cultural resources.
- a planning sequence to determine the most appropriate use of cultural resources
- a management system to provide for, among other things: nomination of appropriate cultural resources to the National Register of Historic Places; Administration of Antiquities Permits on the Public Lands; and development of a public education program to increase awareness of cultural resource values and to reduce vandalism
- a protection component to provide appropriate protection to cultural resources, including; administrative measures (such as designations, withdrawals, and surveillance and patrolling) and physical measures (such as fencing, signing, structural stabilization, surveillance, and ground surface stablilization).

It has been estimated that over 1/2 million cultural resource properties exist on the Public Lands. The properties vary from extensive prehistoric cliff dwellings to surface depressions indicating the existence of pit houses, from the Pony Express Trail to rock art panels, and from scientifically important intaglios to historic forts.

Program features for FY 1978 include:

- inventories (does not include studies made or cultural resource inventories funded by other resource programs)

* Class I overviews	24 each
* Class II reconnaissance field inventory	100,000 acres
* Class III intensive field inventory	1,000 acres
* Inventory forms completed	540

- nominations to the National Register for Historic Places 30
- Antiquities Permits administered 160
- properties to receive protection measures 35
- management and maintenance of properties already protected 70
- special areas being managed (Ft. Egbert, Alaska; Grand Gulch, Utah; Garnet, Montana; etc.) 12
- cultural resource inventory and protection contracts prepared and administered 20
- mitigation operations monitored 125

RUINS OF THE BOYD PONY EXPRESS STATION - UTAH

MAJOR PROGRAM CHANGES

(3) Visual Resource Management — No Change.

PROGRAM DESCRIPTION

(3) Visual Resource Management — No Change; Total $250,000
Total 7 Positions

There are a wide variety of scenic values (visual resources) on the public lands ranging from the snowclad peaks of Alaska to the desert of the southwest, from the grandeur of the Rocky Mountains to the rain forests of the Pacific Northwest. The Bureau has numerous resource management programs that involve some alteration of these scenic values. How the Bureau professionally manages the visual resource will have a significant role in determining the public reaction to all other Bureau resource programs.

The objective of the visual resource management program is to provide a systematic approach to evaluate and manage visual resources in a manner which will minimize the adverse impact of all Bureau programs and projects upon visual resources.

The visual resource management program has two basic aspects: it is made up of a base program with an internal workload funded in this activity and a support program complementary to and financed by all other Bureau resource programs.

(a) The base program includes: inter- and intra-agency coordination, identification and evaluation of the visual resource, applied research to maintain the state-of-the-art, and training of Bureau employees to implement the program.

(b) The support program includes: determination of visual sensitivity levels and visual zones and providing expertise for project design to minimize the adverse impact of the project (such as timber harvest, road construction, and mining) upon the visual environment.

Program features for the visual resource management base program in FY 1978 include:

- Acres of inventory	10,000,000 acres
- Visual Resource Management Guide for Energy and Energy-Related Projects	1
- Monitor Bureau Resource Programs to insure they are meeting visual resource management criteria	30% of Bureau projects
- Visual Resource Inventory contracts prepared and administered	10

MAJOR PROGRAM CHANGES

D. Soil, Water, and Air Management — $$378,000; Total $11,267,000
-2 Positions; Total 262

Proposal: The increase is to pay for rising costs of employee compensation. These costs have been traditionally identified in the Watershed Management subactivity. The net of $378,000 is an increase of $382,000 for employee compensation payments and a decrease of $4,000 to transfer access function to the Acquisition, Construction, and Maintenance appropriation.

Cost Factors (Increase). An increase of $382,000 for employee compensation payments for a total of $709,480.

Justification. The costs of compensation and medical benefits have increased over prior years due, in part, to higher salary levels which form the basis for compensation, mandatory cost-of-living increases and the increased cost of medical care. Injury claims for compensation and long-term disability and death cases have also increased.

PROGRAM DESCRIPTION

D. Soil, Water, and Air Management — +$378,000; Total $11,267,000
-2 Positions; Total 262 Positions

The objectives of this program are directed to protection and stabilization of unnaturally eroding soils, enhancement and maintenance of water quality, continued production of usable water, and evaluation and mitigation of impacts of Federal and non-Federal public lands projects on air quality. The program utilizes a number of direct techniques to protect and stabilize soils and retard surface runoff of water. More importantly, however, is its relationship to other programs which impact soil stability, or whose management practices assist in the stabilization of soils.

Most significant of these is the relationship of livestock grazing and wildlife habitat management to watershed condition and stabilization. The three cannot readily be divorced since changes and improvements in one effect the other two. Management of vegetative condition and composition is the most desirable means of achieving soil stability, and is most often done through management of livestock and wildlife. Some areas, however, have reached a condition that is beyond correction through management and must be treated by direct stabilization projects. In many areas, lack of stabilization not only contributes to increased silt loads in streams, and other damages, but may threaten cultural values, antiquities sites, and other irreplaceable values. The soils and water program components prescribe treatment to achieve both program objectives and local site objectives, including the installation of soil and water control structures such as detention or retention structures; monitoring conditions and trends of the soil mantle and waters produced on public lands; and dealing affirmatively with sources of pollutants, particularly salines, to public waters. The air quality component of the program provides program guidance and expertise in evaluating existing air quality and expected impacts of Federal and non-Federal project proposals. Program guidance

The Bureau participates in managing 26 community watershed areas under P.L. 566 such as the Rio Puerco and San Simon Areas. In addition, there are 83 watersheds, e.g., Murray Canyon, Nevada; classed as "critical community watersheds" that supply downstream water and contribute to flood and sediment damage to users such as irrigation districts, outlying settlements and communities, and small industry.

In addition to soil and watershed project work, maintenance of previously constructed structures constitutes and major element of work. BLM presently has about $113 million invested in soil and water control structures on the public lands. Existing capability provides for maintenance of these facilities as shown in the table below:

	Total No.	Investment ($000)	Units Maintained
Detention and Reservoirs	14,831	$ 29,419	2,300
Dikes (linear feet)	4,582,000	2,760	454,000
Springs	5,713	4,370	470
Wells	2,679	7,344	365
Pipelines (miles)	3,656	4,838	0
Catchments	212	739	0
Fences (miles)	35,432	31,320	80
Cattleguards	2,818	2,401	0
Site Improvement (thousands of acres)	4,470	29,389	0
		$ 112,580	

In addition to project work, the program supports other activities by providing basic soil inventories for use in making land use and resource allocation decisions. The majority of this work is done under reimbursable agreements with the Soil Conservation Service and by contract. Approximately 1.6 million acres will have soil surveys conducted on them in FY 1978.

The Federal Water Pollution Control Act, among other requirements, directs that agencies be knowledgeable of the impacts that its actions are having upon water quality. USGS stations provide stream-mouth data but, other than in coal areas, none specific to local sites. To overcome this deficiency, BLM has initiated water quality monitoring in a few selected areas where agency actions may be expected to impact water quality.

Stations will identify source and type of chemical and biological pollutants that result from BLM actions, and will assist materially in developing standards and methodology to mitigate pollution. Station data is to be analyzed with stream-mouth information provided by USGS monitoring programs to provide a total picture of the water quality situation in a given drainage--site specific as well as stream-mouth.

The Bureau has been notified that its assessment from the Department of Labor for compensation payments will be increased $382,000 in FY 1977 to a new total of $709,480. That amount is the basis for the increase in the Soil, Water and Air Management subactivity for Fiscal Year 1978 where it is traditionally funded.

E. Wildlife Habitat Management. Fiscal Year 1977, $5,381,000; Fiscal Year 1978, $5,379,000; a decrease of $2,000.

Proposal. The decrease of $2,000 reflects the transfer of the access functions to the Acquisition, Construction, and Maintenance appropriation.

PROGRAM DESCRIPTION

E. Wildlife Habitat Management -$2,000; Total $5,379,000
-2 Positions ; Total 117 Positions

Wildlife resources on the public lands are enhanced through protection of their habitats. Broad objectives of the BLM wildlife program are to:

- maintain diverse wildlife communities to preserve the integrity of the national environment;

- provide public recreational opportunities associated with wildlife resources on the public land to satisfy increasing demand;

- protect the quality and quantity of Critical Habitats essential to threatened or endangered wildlife species; and

- improve and protect vital aquatic and associated riparian habitats required to increase the Nation's commercial and sport fisheries.

To achieve these objectives the BLM Wildlife Program has developed major program thrusts which are associated with specific wildlife legislation. This legislation includes the Endangered Species Act (P.L. 93-205) and the Sikes Act (P.L. 93-452) --specific authorities which require BLM's close coordination and cooperation with State, local, and other Federal agencies during program development for wildlife habitat improvement and protection.

Objectives, as directed and mandated by legislation, are attained through the preparation and implementation of specific planning efforts. The BLM's wildlife habitat planning component is the habitat management plan (HMP) which is developed jointly with the State agency responsibile for animal population management. Plans include objectives, improvements where necessary, and management programs for specific areas of the public lands.

In addition, endangered species recovery plans are developed to specifically protect those species and their habitats which are classified as threatened or endanagered. These plans are developed by recovery teams appointed by the U.S. Fish and Wildlife Service. The recommendations contained in the recovery plans provide guidance for interagency conservation and recovery programs on a species-by-species basis.

There is a nationwide concern for wildlife resources associated with public lands. This concern is being expressed not only through public involvement in planning, but also through legislative actions and litigation. BLM is committed to maintaining and improving wildlife habitat and thus wildlife production on the land it manages.

The wildlife program features the protection and enhancement of 450 million acres of public lands offering 20 percent of important habitat for big game animals of the United States, 258,000 miles of streams and rivers, 5 million surface acres of lake, reservoir and ponds, production of over half the annual catch of salmon and steelhead in the West, and an undetermined amount of Critical Habitat for threatened or endangered species. Specific FY 1978 planned work components and accomplishments are shown below:

Feature	Workload Measure	Habitat Unit
Activity Planning		4,200,000 ac.
Habitat Management Plans	55 plans	
Recovery Plans	8 plans	
Data Collection		
Terrestrial		20,000,000 ac.
Aquatic		30,000 ac.

Terrestrial Habitat Improvement		
Vegetative		12,500 ac.
Fences and Fence Modification	300 mi.	450,000 ac.
Water Developments	75 ea.	190,000 ac.
Aquatic Habitat Improvement		
Streams		250 mi.
- Fencing	75 mi.	
- Structures	80 ea.	
Pond, Lakes, & Reservoirs		4,500 ac.
- Fencing	25 mi.	
- New Structures	30 ea.	

Major benefits to be derived from the BLM Wildlife Program include:

- increased opportunities for consumptive and nonconsumptive uses of wildlife, subsequently increasing direct and indirect revenues to the States;

- increased commercial production and harvest of fish to augment State and national economies;

- prevention of the extinction of threatened or endangered species.

Current recreational use of wildlife on the public lands is in excess of 50 million visitor days and generates over $420 million in recreation revenues annually. Demand is increasing, but recent reductions in wildlife populations, such as those of mule deer and salmon in several Western States, have not only diminished the public opportunities, but have also limited State and local revenues as well. Mule deer numbers in Idaho, Oregon, and Utah, for example, have declined nearly 75 percent in the past 20 years. This resource has been generating over $500 million to the recreation industry annually, but today several State economies are being adversely effected by decreasing mule deer numbers. Cooperative efforts for habitat improvement are being designed to return these populations to their earlier levels. Conservative estimates of fish and wildlife value harvested annually from BLM land are in excess of $350 million.

BLACKTAIL DEER NEAR TRINITY RIVER, CALIFORNIA

In regard to commercial fisheries, over half of the annual catch of salmon and steelhead on the west coast is produced from spawning grounds found on public lands in Alaska, California, Idaho, and Oregon. The commercial harvest produced on the public lands is in excess of $50 million. Programs are being designed to improve salmon spawning streams in order to reverse current declines in populations.

There are about 30 species of threatened or endangered mammals, birds, or reptiles which use public lands for all or part of the habitat requirements. BLM has initiated habitat protection or enhancement programs for seven of these species, including the California condor, black-footed ferret, peregrine falcon, Yuma clapper rail, Mexican duck, Warm Springs pupfish, and Lahontan cuttroat trout.

The most significant deficiency associated with the endangered species program is the lack of adequate data on their distribution and habitat requirements, Significant land use changes and development programs, particularly mineral and energy related programs can have an adverse effect on the habitats of these species. Currently, coal development proposals in Colorado could result in adverse impacts to the peregrine falcon; phosphate and geothermal programs in California may have negative influences on peregrine falcons and California condors. Also, existing and proposed transportation corridors and off-road vehicle use are having adverse impacts on the desert tortoise in California and Utah, circumstances that could readily result in subsequent listing of this reptile under the Endangered Species Act of 1973. Wildlife program efforts are directed toward supporting these programs. This is done through improving habitat and populations, thereby reducing the chances that a species will be listed and impose added limitations on land use and resource development.

The BLM endangered species program includes a continuing longer range effort to obtain baseline data on over 20 million acres where the 30 threatened or endangered species are suspected to occur. This is being done to provide effective protection for such species and their habitat. Of particular importance is the planned development of management programs in Fiscal Year 1978 for the enhancement of 100,000 acres of habitat for both threatened or endangered species. This will include BLM's responsibility for implementation of recovery plans for at least the following species: American peregrine falcon, Yuma clapper rail, California condor, Warm Springs pupfish, blunt-nosed leopard lizard, Colorado River squawfish, woundfin, and Mexican duck.

F. Fire Management: Fiscal Year 1977, $8,304,000; Fiscal Year 1978, $8,304,000; no change.

MAJOR PROGRAM CHANGES

F. Fire Management — No Change.

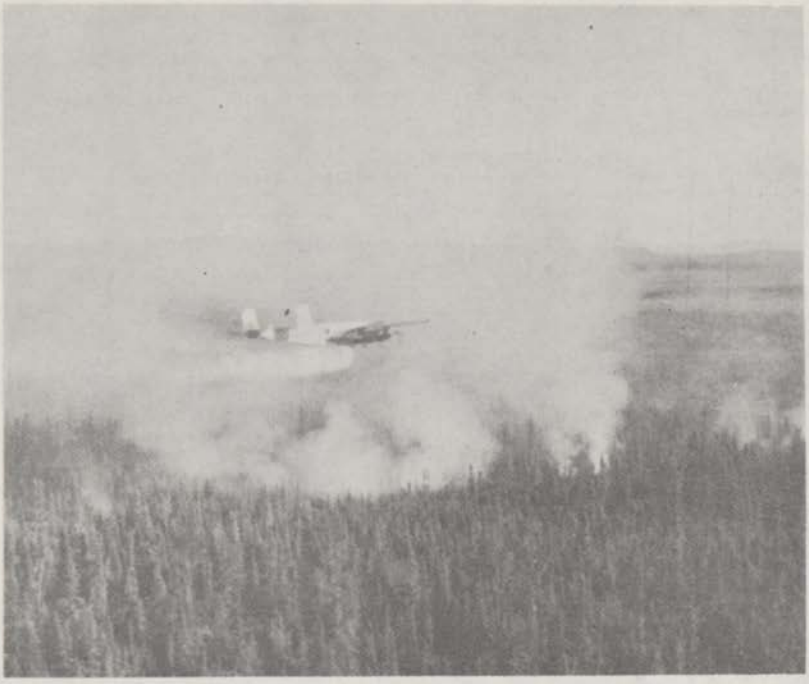
PROGRAM DESCRIPTION

F. Fire Management — FY 1978 Total $8,304,000
-5 Positions ; Total 207 Positions

The objective of the fire protection program is the protection of public lands from uncontrolled wildfire that threatens significant natural resource values. Protection is the planning and preparatory component of fire control. The suppression and fire rehabilitation program is carried out under an emergency activity which is not part of the funding shown above.

Existing capability is directed toward implementation of the Normal Fire Year Plan which integrates BLM's fire management objectives with resource values and resource management objectives.

83-561 O - 77 - 6



RAPID RESPONSE TO WILDFIRE IS ESSENTIAL FOR THE PROTECTION OF OUR NATURAL RESOURCES

This program includes preparedness or "presuppression" work in advance of actual fire occurrence to reduce the risk of fire, and to increase effectiveness of suppression once a fire does start. Major elements of this work include prevention through campground patrols, issuance of burning permits, fire detection systems (both ground and aerial), hazard reduction through slash and snag disposal, firebreak maintenance, maintenance of fire weather stations, analysis of fire weather data, and analysis and purchase of improved equipment and training

G. Pay Costs +$90,000; Total $90,000

The requested increase of $90,000 is the amount required to annualize the October 1976 pay raise for classified employees.

H. Space

Public Law 92-313, Public Building Amendments of 1972, requires that effective July 1, 1974, agencies be charged for space and related services provided by the General Service Administration (GSA) at approximate commercial equivalent rates. The estimated increase requirement for space and related services in GSA facilities based on rates supplied by GSA is $35,000 included in the program increase in this activity. Total space costs included in the Renewable Resources Development, Protection, and Management activity are $1,950,000.

4. Planning and Data Management

Analysis of Activity

FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-)
$7,376,000	$20,133,000	$24,133,000	+$4,000,000

4. Planning and Data Management: FY 1977, $20,133,000; FY 1978, $24,133,000; an increase of $4,000,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
A.	Planning for Multiple Use				
(1)	+$1,000,000	-0-	$2,000,000	5	National Petroleum Reserve-Alaska: to continue the land use study required by the Naval Petroleum Production Act of 1976 (P.L. 94-258) including the identification of land and resource values and development of management recommendations.
(2)	+ 1,000,000	-0-	1,000,000	-0-	Long Range Study: to provide for a long range study of public land programs and objectives taking into consideration the Federal Land Policy and Management Act (P.L. 94-579).
(3)	- 1,000,000	-0-	1,000,000	20	California Desert: to shift effort to the interim management component of the California Desert Program.
(4)	-0-	-0-	7,422,000	256	Other Planning for Multiple Use: No change
B.	Data Management				
	+ 2,960,000	+14	12,671,000	167	Data Management: to implement integrated systems for automated data management.
C.	Pay Costs				
	+ 40,000	-0-	40,000	-0-	Pay Costs: to annualize the October 1976 pay raise to civilian employees.
D.	Space Costs				
	(+75,000)	-0-	(660,000)	-0-	GSA space costs included above.
	+$4,000,000	+14	$24,133,000	448	

PROGRAM SYNOPSIS

The basic objectives of the planning and data management activity are: 1) to insure that BLM programs are properly coordinated with each other and with programs of local and State governments and private landowners, and 2) to provide useable information for discharging Bureau responsibilities and insuring adequate management of valuable resources. BLM utilizes management framework plans (MFPs) to carry out the first objective; these documents guide the mixture of uses carried

out on a given area. MFP's are dynamic and must be updated to reflect the most current data available; thus effort is being directed to both revisions of plans in priority areas and development of new plans in geographic areas not yet covered by MFP's. MFP's are BLM's terminology for land use plans as required under the Federal Land Policy and Management Act and the Federal Coal Leasing Amendments Act.

To meet the second objective, the Bureau has developed a plan which provides for development of integrated manual and automated systems for gathering, storing, processing, and retrieving vast amounts of resource management, support and administrative data. Pilot projects in automated data management are underway in Alaska, Oregon, and OCS Offices; results of these projects will be utilized in continuing the Bureau's Strategic Plan for Information Systems Management. The proposed FY 1978 increase in planning is the net result of reducing the California Desert planning effort, increased planning for the National Petroleum Reserve - Alaska, and an increase for a long range study of public land programs and objectives. Increases in the data management program will provide the capability required to continue second-year efforts of Strategic Plan implementation. It includes necessary additional BLM manpower, contract support, and acquisition of computer hardware.

A. Planning for Multiple Use: Fiscal Year 1977, $9,422,000; Fiscal Year 1978, $10,422,000; an increase of $1,000,000.

MAJOR PROGRAM CHANGE

A. Planning for Multiple Use	+$1,000,000; Total $11,422,000 +-0- Positions; Total 281 Positions

Proposal: The $1,000,000 increase is the net of a $1,000,000 increase in planning for the National Petroleum Reserve - Alaska, a $1,000,000 increase for a long range study of public land programs and objectives, and a $1,000,000 decrease in planning for the California Desert Conservation Area.

Justification: (1) National Petroleum Reserve-Alaska - +$1,000,000
The requested increase is needed to accelerate efforts initiated in FY 1977 to prepare a land use study of the reserve as mandated by the Naval Petroleum Reserve Act of 1976. The reserve covers most of the North Slope oil province. Jurisdiction and responsibility for development and protection of this 23 million acre area was transferred to the Secretary of the Interior on April 5, 1976. Although the plan will be based largely on available existing data, some contract studies are needed to identify archeological sites, to determine the location and availability of water, and the location and extent of fisheries and wildlife habitat in the development of the land use plan. Efforts also include data analysis, identification of potential use conflicts, conflict resolution with adequate public input and graphic production of planning documents. an overall plan will be developed for submission to Congress in April 1979 to facilitate decisions on future development of the reserve with safeguards to protect the fragile environment. Preparation of the plan will include full consultation with other Federal, State, and local agencies, Alaskan Natives, and the general public.

(2) Long Range Study - +$1,000,000
The requested increase is needed to initiate a long range study of current objectives and programs for management of the public lands and the effect the Federal Land Policy and Management Act of 1976 (P.L. 94-579) has on these programs and objectives. The new Act has also provided new programs and regulatory requirements for the public lands, and the study will serve as a guide in developing cost effective strategies for implementing these programs. Examples of areas to be considered are: the extent to which new access and exchange authority should be used for "blocking up" areas; what criteria are needed to identify "areas of critical environmental concern" as defined in the Act, and what management initiatives are required for these areas; what changes in current procedures are needed to imple-

ment the substantive land-use planning requirements of the Act; and what procedures should be followed in reviewing roadless areas for possible wilderness designations. The overall study will significantly insure that the public lands are managed in such a way as to facilitate the multiple use concept of management.

(3) California Desert Plan - -$1,000,000
The requested decrease is a redirection of effort to interim critical management of the Desert. The reduction is also equivalent to the FY 1977 reprogramming that accelerated data gathering. Management framework plans have been completed on some 3.5 million acres using new inventory techniques to fill identified data gaps. Some 12 million acres remain for plans to be completed and consolidated with previous work into a Desertwide plan required to be completed by September 30, 1980. This remaining acreage will use existing information for a planning base to meet the goal of holding preparation of the Desert Plan, due to be completed by September 30, 1980, to a total of $3,000,00 over FY's 1977 and 1978.

Cost Factor (increases): Four temporary man years at an average cost of $26,500, $106,000; travel, rent, communication, printing, and reproduction and supplies and materials $22,000; equipment, $4,000; and contractual services $1,868,000.

PUBLIC PARTICIPATION IS VITAL TO THE BLM'S MULTIPLE-USE PLANNING PROCESS

PROGRAM DESCRIPTION

Total $11,422,000
Total 281 Positions

The objectives of BLM's planning for multiple use subactivity are: 1) to insure that BLM programs (range, forest management, wildlife, energy and minerals management, etc.) on each land area are responsive to policy and future need, and 2) to insure that they are properly coordinated with each other and with plans and programs of local and State governments and private landowners. The Bureau's land use planning program was initiated in 1969 in recognition of the need to evaluate competing uses of the public land acreage - much of it intermingled with land under private or other forms of public ownership. The above objectives are met through the preparation, use, and maintenance of multiple use plans called "Management Framework Plans" (MFP's). These plans along with supporting information guide the mixture of uses provided on a given area.

BLM's multiple use planning program has been carried on under Departmental authority which authorizes the Director to use such management techniques and tools as are necessary to guide and coordinate the specific land management programs for which he is responsible. This authority was buttressed by the National Environmental Policy Act which requires use of a "systematic interdisciplinary approach in planning". Recent legislation has added impetus to our planning efforts. Public Law 94-377, an act "To amend the Mineral Leasing Act of 1920 and for other purposes" requires any coal lease underlying Federal surface to be based on a comprehensive land use plan and directs the Secretary to prepare plans for lands under his jurisdiction. In addition, the Federal Land Policy and Management Act (P.L. 94-579) requires preparation of the land use plans.

The area that BLM manages has been subdivided into 630 "planning units". These are basic compartments or geographic areas used to record inventory data and develop Management Framework Plans. As of the end of FY 1977, approximately 450 or 70% of these units will be covered with plans of widely varying quality. Many of these plans were prepared with limited resource inventory data and are rapidly becoming out of date with the development of new inventory data, policy, and commodity demand data. This was anticipated and the Bureau planning system is designed to be dynamic.

The planning system provides for constant deposition of new data and complete revision of specific plans when necessary. We are finding the need for major revision in priority areas (e.g., areas requiring coal, range or timber program action) to be greater than the need for new plans in the 30% of the planning units not yet reached. For example, in FY 1977 plans will be revised for 45 units and new plans prepared for 27. At the FY 1978 funding level provided, we estimate major revisions for 60 units and new plans for 20 units. These 80 units comprise 12.5% of the 630 units involved. Projecting this rate of planning into the future, and holding all costs constant, the FY 1978 program will provide the Bureau with capability to maintain land use plans on an average 8 year revision cycle. Currently, we are finding that plans 4-6 years old are so out of date, because of the constantly changing social and economic environment, that revisions are needed before they can be used as the basis for major program decisions.

B. Data Management: Fiscal Year 1977, $9,711,000; Fiscal Year 1978, $12,671,000; an increase of $2,960,000.

MAJOR PROGRAM CHANGES

B. Data Management: +$2,960,000; Total $12,671,000
+14 Positions; Total 167 Positions

Proposal: The program increase will provide the capability required to successfully continue the second year effort of a Bureau project to develop integrated systems for resource data management. The total project involves implementation of the "Strategic Plan for Information Systems Management." The plan is the end product of work begun in FY 1974. During FY 1975, a team of Bureau employees, supported by contract personnel, completed an extensive study of the information handling needs and capabilities of the Bureau. Results of that study provided the basis for formulation of the Strategic Plan which was completed and approved in FY 1976. Preliminary work on plan implementation began during FY 1976 and will be continued during FY 1977.

The Strategic Plan for Information Systems Management provides the framework for development of integrated manual and automated systems for gathering, storing, processing, and retrieving vast amounts of resource management and other data. The plan addresses the issue of providing adequate information handling capability to field managers who are responsible for basic resource management decisions. The plan formulates development on a package or building block concept. Each package, when implemented, provides a segment of functional utility in BLM. The data base associated with each package is also available for use in subsequent packages; i.e., building block concept. Guidance provided by the plan directs all Bureau efforts to product information handling capability that will fit the total integrated system taking maximum advantage of ADP and remote sensing technology.

The Strategic Plan has been reviewed within the Department of the Interior and by others. Recently, plan concepts and approaches were evaluated by top systems people from the General Services Administration, the Department of Commerce, and the National Bureau of Standards. The plan has been acclaimed as one of the few complete systems proposals outside of the Defense Department. It is considered to be an appropriate approach for accommodating rapidly increasing demands for handling, analyzing, and disseminating information effectively in meeting the Bureau's responsibilities for managing resources.

Implementation of the plan employs an orderly approach to development involving sequential actions as illustrated by the following action steps:

Action	Result
Strategic Plan	Provide guidance and control.
Detailed Requirements Definition (DRD)	Defines "what" the system must do.
System Design	Describes how the system must be built to do the "what."
System Development	Build the system according to design specifications.
Acceptance Testing	Test by users to insure acceptance and utility.
Bureau-wide Implementation	System placed in operations, made available to users.
Operation and Maintenance	Maintain systems capability and utility.

The sequential actions outlined above are required for implementing each of 15 packages. The Strategic Plan will be supplemented by specific work and action plans for each step of the process. During the T.Q., work was initiated on the Detailed Requirements Definition (DRD) for the Resource Inventory and Unit Resource Analysis (planning base) packages. These two packages represent some of the most

complex work in the entire plan. However, the capability to adequately handle resource inventory and basic planning data were identified as being critically needed by field managers. The capabilities developed for these packages will be the cornerstone for the development and maintenance of the comprehensive resource inventory required by the Federal Land Policy and Management Act of 1976 (P.L. 94-579), especially the requirements for keeping the inventory current and making the information available to states and counties. These two packages also serve as building blocks for a number of other packages. Accordingly, the initial effort will provide both immediate and long term benefits to the project.

During FY 1977, the work plan specifies completion of the following action items:

-Complete DRD for Resource Inventory and Unit Resource Analysis package;
-Plan and initiate DRD for Land and Mineral Ownership Records, Case Management and Utilization Management packages;
-Initiate data base management system design effort;
-Initiate telecommunications study and design effort;
-Initial field testing of remote sensing capability to verify utility for data gathering. Cooperative effort - NASA, GS-EROS, BLM.

It has become apparent that as this systematic approach gathers momentum, workload expands in geometric proportions. The requested program increases will permit maximum base level efforts to continue and will accommodate the orderly growth needed to retain the project intact, precluding fragmentation and wasted effort. Requested increases call for additional personnel augmented by contract support. Increased capability would be directed to:

-Pay second year increase in costs FY 1977 computer acquisition, $460,000.
-System Design, Resource of Inventory, Unit Resource Analysis: 3 positions plus contract support will be committed to this work, $640,000.
-Complete DRD and initiate System Design, Land and Mineral Ownership Records: 3 positions plus contract support required for accomplishment, $445,000.
-Complete DRD, Case Management and Utilization Management: 2 positions plus contract support required for accomplishment, $200,000.
-Continue design of the Data Base Management and Telecommunications Systems: This work must proceed simultaneously with system design for the first 3 packages. 4 positions plus contract support are required, $540,000.
-Acquire hardware for BLM-Oregon in preparation for systems development and testing, plus continue ongoing work: 2 positions plus purchase costs, $620,000.
-Acquire hardware for handling and verifying existing remote sensing data, $55,000.

Justification: Resource Management, in the present social and political climate, rests on a foundation of knowledge comprised of data and information documented in a variety of formats. Legal, scientific and managerial data may be recorded on paper text, photographs, maps, plats, digital tapes or electronic imagery. Development of an information system to operate, coordinate and control a large volume data base in an effective, efficient manner is essential if the ongoing mission and announced objectives of the BLM, Department of Interior, and the Congress are to be met.

The BLM is the agency responsible for establishment of boundaries in the public land states and on the oceans surrounding the United States. The resulting land and mineral ownership records create a data base comprised of millions of information items.

Physical inventories required for land and sea use planning of surface and subsurface resources such as minerals, soils, vegetation geology and water create another large volume data base. Managing the utilization of energy and non-energy minerals, timber, forage, rights-of-way, recreational use and other commodity resource uses requires use of ownership and inventory data providing an additional data base of large scale. Protection of wildlife, cultural and historic values, renewable resources and capital investments from fire, pests, diseases and unlawful acts represents still another data base of sizeable dimensions.

Part of the study effort that preceeded the Strategic Plan involved estimating the size of the existing data base in BLM. It was determined that there are approximately 84,700,000 individual records in existence, stored on maps, overlays, paper, magnetic tape and disks. Each record contains many data elements, ranging from one to several thousands individual information items. As a result of the broad geographic area of Bureau responsibility and operations, these records are stored at 120 separate locations spread from Fairbanks, Alaska to New Orleans and from New York to Los Angeles. These records are accessed by users from 1-2 times per day to 1800 times per month per site.

The broad range of Bureau activities described earlier, and the Federal Land Policy and Management Act of 1976, require an intensive coordination effort and information exchange between local and state governments and several Federal agencies. Many of the state and Federal agencies, dealt with routinely use advanced information handling and processing technology in their resource planning and management activities. By comparison, BLM relies largely on manual sytems for handling resource data.

The work proposal involving the program increase is part of a planned, controlled process designed to make effective use of automated data processing, reduce manpower requirements for handling information, make maximum use of systems and data bases already developed by other agencies, and provide long term benefits by way of improved response to public and resource demands. When implemented, each package will provide a useable, economically efficient capability for storing, analyzing and making available, when needed, a portion of the BLM data base. When the Strategic Plan is fully implemented, a totally integrated manual and automated data handling system will be available to support the resource management process.

The approach described in the program increase proposal will utilize expertise that is available in the private sector for work of a one time nature. This eliminates the necessity for a large, permanent buildup of Federal employees. However, sufficient inhouse capability must be provided to work with contract personnel. This arrangement is necessary to insure that quality standards are met, continuity of effort is maintained and working knowledge gained by the investment in contracts is retained after the contracts terminate.

A part of this effort also includes the study of remote sensing for the acquisition of a variety of resource inventory data and resource condition trends. This study, known as the Application Systems Verification Test (ASVT), and associated hardware is designed to ascertain the practical applicability of remote sensing to resource management, and involves the active participation of USGS (EROS) and NASA. Again, the broad scale of BLM responsibilities and the massive geographic areas involved require application of improved technology to track and record condition, yield, and man's impact on renewable and non-renewable resources.

The telecommunications capability involved in the increase proposal is limited to land line transmission of data moving in and out of automated systems. This capability will result in a reduction of the number of record storage locations and give the user (i.e., resource specialist, BLM decision makers, members of the public) access to stored information. Improved information exchange between BLM, state and Federal agencies will also result.

Cost Factors: Fourteen permanent positions at an average cost of $17,720, $248,000; ten temporary man years at an average cost of $6,350, $63,500; travel, per diem, and transportation for field work, $50,000; space, utilities, printing, and supplies, $400,000; equipment purchase, $1,100,000; and contractual services, $1,098,500.

PROGRAM DESCRIPTION

B. Data Management: total $12,671,000
total 167 positions

This subactivity is concerned with managing existing systems and developing improved capability for acquiring, storing, using and disseminating data and information. The objective of the activity is to provide useable information for discharging agency responsibilities, providing optimum public service and insuring adequate management of resources valued in multi-billions of dollars.

The Bureau is now attempting to carry out a rapidly expanding mission while relying on largely manual resource information handling methods. Present systems are run on a B-5500 computer of limited capability. Approval has been granted for replacement of this hardware through competitive acquisition of a new computer. The proposals are presently being evaluated: an award is expected by April 1977, and the new hardware should be in place by September 1977.

Manual data handling occurs at approximately 120 locations. Automated capability has been largely centralized in Denver for reasons of cost efficiency. Pilot projects involving automation of Lands and Minerals Ownership Records (Alaska and Outer Continental Shelf Offices) and basic resource information (Oregon) are currently underway. These test projects utilize limited non-Bureau processing capability. The Alaska project has proven the feasibility of automating ownership records while producing tangible benefits associated with processing Alaska Native Claims Settlement Act (ANCSA) applications. The Oregon test has proven the feasibility of applying computer graphics technology to field office operations. The results obtained and knowledge gained during these pilot projects will find immediate applications in the first 3 packages of the Strategic Plan. The Outer Continental Shelf work is a contract effort specifically aimed at OCS requirements.

The bulk of the activity centers around the Denver Service Center. A basic ADP organization exists there containing all the elements of a standard organization ranging from management to computer operators. This organization contains the programmers and systems specialists required by current applications of data processing. Recently a nucleus of data base management and computer graphics skills have been added to carry out elements of the Strategic Plan effort.

The Service Center also includes staffs of resource specialists representing the full range of Bureau responsibility. Included are unique skills such as remote sensing specialists, and scarce skills such as historians, economists and interpretative specialists. These staff members contribute to the information systems developmental effort, along with standard resource disciplines such as range conservationists, foresters and geologists. Working side by side with ADP specialists, this cadre of personnel function as user representatives to insure that developing systems meet user needs.

Another large segment of this basic activity is represented by field office staff. These people are brought, in on a short detail basis, to provide specific input to various action steps such as the detailed requirements definition (DRD) now in progress. This characteristic of the Strategic Plan, i.e., reliance on actual users for major input, was a feature that was strongly endorsed by the systems people from other agencies who recently evaluated plan concepts and procedures. Field offices also participate in the basic program activity by providing most of the inter-governmental and inter-agency contact and coordination that is required. As a result of this close working relationship some field offices are currently making limited use of data bases and systems now existing outside the Bureau.

The remainder of the basic activity is made up a limited number of people with telecommunication skills, support personnel such as clerical skills and a widely scattered mixture of people who have ADP knowledge as a second skill. Management and supervision of the basic activity is conducted by field office managers along with their other responsibilities. The single exception to this rule is a small staff in the Washington Office to manage implementation of the Strategic Plan. This staff consists of one full-time project manager and three other people who contribute their skills and knowledge along with other duties.

In summary, this basic program represents a bare nucleus of skills, disciplines and equipment capability required to handle ongoing automated data processing functions most of which are administrative in nature. The majority of developmental work, as laid out in the Strategic Plan, will fall to actual system users supported by minimum numbers of ADP personnel and rather large contract efforts. Acquisition of necessary hardware, telecommunications and remote sensing capability will be scheduled in pace with development work.

C. Pay Costs. +$40,000; Total $40,000

The requested increase of $40,000 is the amount required to annualize the October 1976 pay raise for classified employees in this activity.

D. Space.

Public Law 92-313, Public Buildings Amendments of 1972, requires that effective July 1, 1974, agencies be charged for space and related services provided by General Services Administration (GSA) at approximate commercial equivalent rates. The estimated increased requirement for space and related services in GSA facilities based on rates supplied by GSA, $75,000, is included in the program increase in this activity. Total space costs included in the Planning and Data Management Activity are $660,000.

5. Cadastral Survey

Analysis of Activity

FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-)
$14,782,000	$15,694,000	$17,724,000	+$2,030,000

5. Cadastral Survey: FY 1977 $15,694,000, FY 1978 $17,724,000; an increase of $2,030,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
A. Cadastral Surveys - Alaska				
+$1,560,000	+2	$9,979,000	82	To help reduce the growing backlog of surveys required to implement the Alaska Native Claims Settlement Act.
B. Cadastral Surveys - other States				
+ 440,000	+5	7,715,000	328	To provide capability to conduct urgently needed selected surveys in Lower 43 States.
C. Pay Costs				
+ 30,000	-0-	30,000	-0-	To annualize the October 1976 pay raise for civilian employees.
D. Space Costs				
(+6,000)	-0-	(536,000)	-0-	GSA space costs included above
+$2,030,000	+7	$17,724,000	410	

PROGRAM SYNOPSIS

The Bureau of Land Management has sole responsibility for the cadastral survey of Federal lands including the public lands which it administers, and lands administered by other Federal agencies. Land management functions such as land transfers, energy development, easement acquisition, timber sales, rights-of-ways, occupancy and trespass resolution are wholly dependent on clearly determined boundaries and legal property descriptions which can only be established by cadastral surveys.

CADASTRAL SURVEYOR
ON THE JOB IN CALIFORNIA

The cadastral workload includes the survey and resurvey of public lands. Because of the deteriorated condition of survey monuments, many of which were established in the previous century, resurveys constitute a substantial workload. Up to 90% of the survey effort in states outside of Alaska is directed to resurvey of lands where monument evidence needed to distinguish between BLM and other lands can no longer be found. Efforts in Alaska, which is largely unsurveyed, are almost exclusively new survey work.

A. Alaska Surveys. Fiscal Year 1977, $8,419,000; Fiscal Year 1978, $9,979,000; an increase of $1,560,000.

MAJOR PROGRAM CHANGES

A. Alaska Surveys +$1,560,000; Total $9,979,000
+2 Positions; Total 82 Positions

Proposal. The increase will provide for an additional 1,500,000 acres to be surveyed during FY 1978 and each year thereafter. This increased productivity (from 3 million to 4.5 acres per year) will shorten the current estimated timeframe for Alaska Native Claims Settlement Act (ANCSA) survey completion from 1988 to 1986. This production will be made possible through additional survey contracts at the $1,500,000 level, and provision for two additional positions for final plat review. A supplemental of $1,560,000, the same amount as this increase is requested for FY 1977.

Justification. Alaska survey programs are predicated primarily on legislative requirements in the Alaska Native Claims Settlement Act (ANCSA), the Alaska Statehood Act, and a commitment to complete the required surveys in a reasonable period of time.

The Cadastral Survey problem in Alaska continues to be immense. Currently over 170 million acres which need to be surveyed have been identified for land disposal to the State and to Natives; over 21,000 separate parcels are to be segregated both within and outside the large selected areas; in addition, 224 village and municipal boundaries along with the lots within the municipalities that were occupied at the time of passage of the Settlement Act need to be surveyed. The cost to complete currently identified surveys is over $500 million.

The ANCSA states that ..."Settlement should be accomplished rapidly and with certainty in conformity with the vital economic and social needs of the Natives", and to "immediately patent" lands after selection. A reasonable target date established to meet the requirement of land patents immediately after selection is now FY 1986 in line with case processing rates in the lands and realty component of the program. But in the meantime, between the time of selection and actual patent, the lands will be conditionally conveyed (tentatively approved) to the Natives. This conditional conveyance of title over such an extended period of time is strongly protested by the Natives. Their ability to borrow, without clear title, is hampered. The ensuing uncertainty is delaying decisions concerning economic development and land use. Valid existing rights must be extinguished before patents can be given. It is expected that extensive energy minerals are involved in many areas. Uncertainties about title are contributing to delays in their development.

Cost Factors. Two permanent positions at an average cost of $22,000, $44,000; travel, per diem, space utilities and supplies, $16,000; contractual services for cadastral surveys, $1,500,000

PROGRAM DESCRIPTION

A. Alaska Surveys — Total $9,979,000
Total 82 Positions

The initial cadastral survey program in Alaska was limited largely to establishment of the survey grid. In 1959 with the passage of the Alaska Statehood Act, this program was expanded to survey state selections and the requirements of other existing public land laws. When the requirements of the Alaska Native Claims Settlement Act (ANCSA) became known (after December 1971), the need arose to increase survey capability to reach the survey capacity required to complete surveys within a reasonable schedule and timetable. Program expansion capability has been in limited increments due to the scarcity of trained surveyors and private firms with survey capability. Private sector capability and BLM survey contract management capability now exist for the program expansion proposed for Fiscal Year 1978, and, by supplemental for Fiscal Year 1977.

The Alaska climate, terrain, and the extraordinary workload require a special management approach, unique techniques, and specialized equipment. Contract surveys are used to react to the large workload under the short time frame of the ANCSA, and to better adjust to the major fluctuations caused by the seasonal aspects of cadastral survey work in Alaska. Organizational changes and the addition of 2 permanent positions in FY 1978 for survey plat review will provide the capability needed to prepare contract specifications, monitor, supervise, and check large-scale contracts, and complete any office work necessary to finalize the surveys. When economically prudent, the latest available technology, including airborne auto-surveyor surveys, is used. Alaska survey priorities include village selections, state selections, and individual dispositions under the land laws that encumber Native Claims' selections.

Current status of State selection and ANCSA survey programs is as follows:

State Selections	Acres
Entitlement	104,500,000
Selected to date (6-1-76)	67,830,680
Area remaining to be selected	36,669,320
Area surveyed	59,712,858*
Patented	19,147,272

* Of which 32,055,129 are currently tentatively approved protraction surveys which will require monumentation before final patent:

ANCSA	Acres
Entitlement	46,000,000+
Selected to date (6-1-76)	100,500,000**
Area remaining to be selected (Section 14(h) - miscellaneous selections)	1,000,000+
Surveyed to date	1,293,000
Patented (or under interim conveyance)	419,170

** Village and regional corporations have completed selections under Sections 12, 16, and 19. Overselections cover changes that may be necessary because of determinations relating to village eligibility, stream navigability, mental health lands, etc. Section 12 provides for the primary village and regional corporation selections; Section 14(h) provides for cemetary and historic sites, primary residences and other possible Native entitlements; Section 16 provides for Tlingit - Haida settlement lands; and Section 19 relates to Native reserves created by earlier acts and executive orders.

B. Lower 48 Surveys. Fiscal Year 1977, $7,275,000; Fiscal Year 1978, $7,715,000; an increase of $440,000.

MAJOR PROGRAM CHANGES

B. Lower 48 Surveys	+$440,000; total $7,715,000 +5 positions; total 328 positions

Proposal. An increase is proposed to provide additional survey capability in support of timber management requiring surveys of 217 miles and setting 310 monuments in California, Colorado, Idaho, and Montana.

Justification.

- In Support of Timber Development ($440,000; 5 positions)

Capacity for increased production of timber exists on public forest lands, but only through more intensive management. Plans to gradually increase the harvest from these lands from 58 million board feet annually in FY 1977 to 85 million board feet annually in 1981 require support services as part of intensive management to carry out the goal. Much of the public domain timber base lands are intermingled with private lands. Because of the many isolated tracts of timber lands, surveys and monumentation of interior section lines are required to identify and utilize the maximum acceptable volume of publicly owned timber. There is no room for dropping back from estimated property lines and leaving timber if we are to sustain a harvest of 65 million board feet in FY 1978 and an eventual harvest of 85 million board feet annually by 1981.

Cost Factors. Five permanent positions at an average cost of $18,200, $91,000; thirty temporary man years at an average man year cost of $8,110, $243,000; travel, per diem, and transportation for field work and detail assignments, $55,000; printing and reproduction, $5,000; space, utilities, supplies, and equipment, $41,000; contracts for miscellaneous services, $5,000.

CADASTRAL SURVEY CREW MEMBER CUTS A LINE THROUGH THICK BRUSH

PROGRAM DESCRIPTION

B. Lower 48 Surveys +$440,000; Total $7,715,000
+5 Positions; Total 328 Positions

Cadastral Survey is basic to all Federal public land ownership and to all resource management activities; it is the unique responsibility of BLM on public lands administered by the Bureau and by the Fish and Wildlife Service, National Park Service, Defense Department, Bureau of Indian Affairs, etc. It is the objective of the program to provide the cadastral surveys that are essential for land sales, exchanges and transfers, easement acquisitions, and resource product sales and leases in a timely manner.

In the Lower 48 states, the current program will continue efforts towards completing an estimated 2.2 million acres per year of original and resurveys requested by other agencies; surveying or resurveying Public Lands in support of resource management programs with the goal of providing survey support on a pipeline basis by FY 1980; and refining the formal corner search and evaluation program in forested areas with cadastral survey followup to rehabilitate existing corner evidence or reestablish lost corners. Many original surveys were completed prior to 1910 and corner evidence is deteriorating. Continued effort will also be devoted to the accelerating need for official protraction diagrams on the Outer Continental Shelf, and surveys required for other energy resource needs.

The long-term potential survey workload in the Lower 48 States necessary to support Bureau programs follows:

	Estimated Miles of Survey	Estimated Number of Monuments	Estimated Man-Yrs. of Survey Effort
Known Survey Needs	300,000	590,000	23,400
Potential additional survey requirements depending upon probable poor physical condition of existing survey	220,000	430,000	15,600
Total Estimated Potential Needs	520,000	1,020,000	39,000

Benefits of the survey program include the resolution and prevention of all forms of trespass, better public service, more efficient resource management, and prevention of further revenue losses.

D. Pay Costs +$30,000, Total $30,000

To annualize the October 1976 pay raise for civilian employees, +$30,000 is required in this activity.

E. Space

Public Law 92-313, Public Buildings Amendments of 1972, requires that effective July 1, 1974, agencies be charged for space and related services provided by the General Services Administration (GSA) at approximate commercial equivalent rates. The estimated increased requirement for space and related services in GSA facilities based on rates supplied by GSA ($6,000) is included in the program increase in this activity. Total space costs included in the Cadastral Survey activity are $536,000.

83-561 O - 77 - 7

6. Firefighting and Rehabilitation

Analysis of Activity

FY 1976 Amount Available	FY 1977 a/ Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-)
$25,250,000	$4,750,000	$4,750,000	No Change

a/ Does not include a request of $35,000,000 in supplemental funds to be transmitted separately.

6. Firefighting and Rehabilitation: FY 1977 $4,750,000, FY 1978 $4,750,000; no change from FY 1977 except for the proposed supplemental.

	Total Program	Total Positions	Explanation
A. Firefighting	$4,150,000	-0-	No Change
B. Rehabilitation	600,000	-0-	No Change
	$4,750,000		

6. Firefighting and Rehabilitation: Fiscal Year 1977, $4,750,000 exclusive of the requested supplemental; Fiscal Year 1978, $4,750,000; no change.

PROGRAM DESCRIPTION

Firefighting and Rehabilitation — FY 1978, $4,750,000
No positions

These funds are used for emergency presuppression and 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.

Actual firefighting costs are directly related to the occurrence of fire and cannot be programmed with any accuracy. The number of fires, size, length of the fire season, and general severity of conditions regulate the need for fire-fighting funds. Supplemental appropriations are requested to cover obligation in excess of initial appropriations. Total firefighting obligations have averaged $23,170,000 in the last five years.

BLM SMOKEJUMPERS ARE AN IMPORTANT PART OF THE FIRE SUPPRESSION PROGRAM

Funds requested for rehabilitation are for damages incurred in unusually severe or extensive fires. The need for rehabilitation following fires is assessed in terms of the possibility of downstream flooding, potential for natural healing in a short time, erosion and runoff potential, and other off-site as well as on-site factors. Grassland fires often move too fast to destroy plant root systems, and natural rehabilitation occurs in a short time. If rehabilitation is deemed necessary, work is begun as soon as possible to stabilize conditions and regenerate vegetative cover.

7. Administration and Enforcement

Analysis by Activity

FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-)
$4,587,000	$3,690,000	$4,127,000	+$437,000

7. Administration and Enforcement: FY 1977 $3,690,000, FY 1978 $4,127,000; an increase of $437,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
A. Administration				
(1) +$200,000	+7	$3,529,000	169	To meet increased accounting and procurement workloads in support of resource programs.
(2) - 30,000		-30,000		Transfer in the estimates to finance contract audits by the Office of Audit and Investigations.
B. Enforcement				
+ 250,000	-0-	611,000	10	To train contract state and local law enforcement personnel to meet Federal standards and to contract with qualified law enforcement agencies in high demand areas.
C. Pay Costs				
+ 17,000	-0-	17,000	-0-	To annualize the October 1976 pay raise for civilian employees.
D. Space Cost				
+ 15,000	-0-	(440,000)	-0-	GSA space costs, included above.
+$437,000	+7	$4,127,000	179	

PROGRAM SYNOPSIS

The Administration activity, provides for the Office of the Director and administrative support to the whole program including contracting, both negotiated and advertised-for-bid, personnel action processing, payroll systems, payment documents processing, budgeting, procurement and property management. Contract procurement and accounting systems changes have been identified in FY 1978 as the most urgent problems needing attention.

A. Administration. FY 1977, $3,329,000; FY 1978, $3,499,000; a net increase of $170,000.

MAJOR PROGRAM CHANGES

Administration +$170,000; Total $3,326,000
+7 Positions; Total 169 Positions

Proposal. Five more contract specialists are needed to act on approximately 43 additional negotiated procurements and two additional systems accountants are needed to facilitate the changes in the accounting system resulting from the passage of the Federal Land Policy and Management Act of 1976. Also included in the net increase is a reduction of $30,000 for transfer from the Administration activity to the Department's Office of Audit and Investigation to finance contract audits.

Justification. Increased workload in all areas of administrative support in Fiscal Years 1976 and 1977 was not accommodated in those budgets. The net result has been impaired planned productivity in other programs, particularly delays in timely award of some planned contracts.

Use of contracting technique to limit Federal employment increases and to acquire goods and services from the private sector has increased significantly in recent years. This is particularly true for negotiated contracts supporting major Environmental Impact Statements, surveying in Alaska, and energy development, both onshore and on the OCS.

				Estimates	
	FY 1974	FY 1975	FY 1976	FY 1977	FY 1978
No. of Negotiated Contracts Awarded	160	224	391	455	498

In addition to these negotiated contracts which are relatively complex, the Bureau awards 700-800 formally advertised procurements per year.

The increased positions requested are a vital element in the Bureau's ability to be responsive to policies directed toward maximizing the use of contracts. FY 1978 increases for five procurement specialists take into account FY 1976 and FY 1977 efforts to increase productivity through use of a wider variety of contracting approaches. Requirements-type contracts are being developed to make available contractors on an on-call basis to provide data in the areas of cultural resources, socio-economics, endangered species, and air quality. This approach will save time in the long run as well as reduce contract preparation efforts. Four of these contracts, with a little extra front-end time, will be used in lieu of twenty-three individual contracts.

The Federal Land Policy and Management Act (P.L. 94-579) and the Payments in Lieu of Taxes (P.L. 94-565) introduced new programs requiring a significant workload to adapt the BLM accounting system to facilitate those programs. The two positions will provide needed manpower to integrate these new programs into BLM's accounting system.

Cost Factors (increase). Seven permanent positions at an average cost of $16,400, $115,000; four temporary man years at an average cost of $11,000, $44,000; travel, $10,000; space, utilities, supplies and materials, $20,000; and equipment $11,000.

PROGRAM DESCRIPTION

Administration

Total $3,499,000
Total 169 Positions

The general objective of this activity is to provide adequate professional administrative support to all BLM programs at minimum cost. Administrative support functions consist of financial management, centralized personnel management, management analysis, procurement, contracting and property management. In FY 1978, other Bureau appropriations will continue to be charged at the rate of five percent for administrative support functions.

B. Enforcement. FY 1977 +$361,000, FY 1978 $611,000; an increase of $250,000.

MAJOR PROGRAM CHANGES

Enforcement

+$250,000; Total $611,000
-0- Positions; Total 10 Positions

Proposal. The proposed increase is to train state and local law enforcement personnel to meet Federal standards and to provide for contracting with qualified state and local agencies in high demand areas.

Justification: The Wild Horse and Burro Act, Sikes Act, and the Wild and Scenic Act provided limited law enforcement authority to protect the BLM but did not encompass all public land laws or regulations. The Federal Land Policy and Management Act of 1976 (P.L. 94-579) provided overall authority for enforcement of laws and regulations governing the public lands.

This proposed program is directed toward the use of contracts with local and state authorities which will serve as a vital part of the BLM's enforcement program. The increase in FY 1978 will provide the Bureau with the capability to initiate a program to train contracted local and state law enforcement specialists to meet Federal standards and enforce Federal law and regulations on the public lands. Also where public lands are in high demand areas and where qualified state and local authorities exist, contracts with these authorities will be issued in FY 1978.

PROGRAM DESCRIPTION

Enforcement

Total $611,000
Total 10 Positions

The general objective of this program is to protect the public lands including property located therein and to use contracts with local and state jurisdictions to the fullest extent possible in enforcing public land laws and regulations.

The law enforcement program, as established under limited authority of several earlier laws, has been supplemented by the passage of the Federal Land Policy and Management Act (P.L. 94-579). The new Act will provide for a more comprehensive enforcement of laws and regulations governing the public lands.

C. Pay Costs +$17,000; Total $17,000

To annualize the October 1976 pay raise for civilian employees, $17,000 is required in this activity.

D. Space

Public Law 92-313, Public Buildings Amendments of 1972, requires that effective July 1, 1974, agencies be charged for space and related services provided by the General Services Administration (GSA) at approximate commercial equivalent rates. The estimated increased requirement for space and related services in GSA facilities based on rates supplied by GSA ($15,000) is included in the program increase in this activity. Total space costs included in the General Administration activity are $440,000.

8. COMMON PROGRAM SERVICES
(Non-Budget Activity)

Common Program Services: FY 1977, $48,004,000; FY 1978, $40,011,000; net decrease of $7,993,000. This activity is a non-add item used for distributing certain categories of costs to appropriated activities on a monthly basis. The net decrease in FY 1978 will result from internal implementation of the new account, activity, and subactivity structure shown in this Budget. Functions such as automated data processing, multi-resource planning system activities and law enforcement will be charged directly to appropriated subactivities rather than allocated through charges to program services.

Program Description

A. Overview.

This common program services activity is a non-add item financed by other operating programs of the Bureau. It is an accounting/financial management system method for planning, charging, and allocating to appropriated activities certain cost items which would be administratively difficult and expensive, or not feasible to charge direct. Costs incurred in this activity are charged back at the end of each month to appropriated activities on a formula basis described in Part D below. In concept and operation this activity is patterned on standard private sector cost accounting procedures for the allocation of indirect costs to the total cost of goods and services provided. The procedures used in BLM for allocation of program services costs have been reviewed and approved in recent GAO audits.

The common program services activity does not include or augment appropriations for the "General Administration" activity which finances specific centralized administrative functions including budgeting, accounting, personnel management, management research, procurement, and property management.

All billings for cost recoverable work performed by BLM, such as Trans-Alaska pipeline inspection, and for reimbursable work performed by BLM for Federal, and non-Federal agencies include an appropriate amount for program services.

B. Program Element Table (Funding).

Element	FY 77 Plan ($000)	FY 78 Plan ($000)	Increase (+) or Decrease (-)
1. Executive direction	3,223	3,253	+30
2. General management staff and clerical support	8,034	4,396	-3,638
3. Multi-program coordination; intra and inter-agency	4,875	5,091	+216
4. Program evaluations	780	812	+32
5. Employee development - safety and other general purpose training	2,724	2,532	-192
6. Programming and annual work planning	1,722	1,798	+76
7. General public inquiries, reports and information	1,595	1,671	+76
8. Regular-time of permanent employees fighting fires	220	231	+11
9. Multi-purpose advisory boards	472	494	+22
10. Multi-activity components of land use planning system	1,485	-	-1,485
11. Development of environmental analysis and statement procedures	431	453	+22
12. General purpose studies and research	390	412	+22

Element	FY 77 Plan ($000)	FY 78 Plan ($000)	Increase (+) or Decrease (-)
13. Review of other Agencies' environmental impact statements	112	117	+5
14. Communication systems planning and maintenance	1,395	1,133	-262
15. Law enforcement	361	-	-361
16. General cartography	966	1,009	+43
17. Maintenance of general purpose tools and equipment	425	-	-425
18. Fixed costs	11,626	12,418	+792
19. Personnel transfer costs	2,583	2,691	+108
20. Equipment-general purpose and ADP	4,585	1,500	-3,085
Total Program	48,004	40,011	-7,993

C. Program Element Table (Permanent and Temporary Man-Years).

Element	FY 77 Man-Years	FY 78 Man-Years	Increase (+) or Decrease (-)
1. Executive direction	125	125	-
2. General management staff and clerical support	641	537	-104
3. Multi-program coordination; intra and inter-Agency	182	192	+10
4. Program evaluations	30	32	+2
5. Employee Development - safety and other general purpose training	109	89	-20
6. Programming and annual work planning	75	78	+3
7. General public inquiries, reports and information	76	80	+4
8. Regular-time of permanent employees fighting fires	13	13	-
9. Multi-purpose advisory boards	16	17	+1
10. Multi-activity components of land use planning system	71	-	-71
11. Development of environmental analysis and statement procedures	15	16	+1
12. General purpose studies and research	10	11	+1
13. Review of other Agencies' environmental impact statements	5	5	-
14. Communication systems planning and maintenance	52	47	-5
15. Law enforcement	14	-	-14
16. General cartography	57	59	+2
17. Maintenance of general purpose tools and equipment	20	-	-20
18. Fixed costs	-	-	-
19. Personnel transfer costs	5	7	+2
20. Equipment - general purpose and ADP	-	-	-
Total Program	1,516	1,308	-208

D. Program Synopsis (By Element).

The following descriptions cover each program element listed above. Major decreases are explained by work element. Unless otherwise explained, increases shown on the preceeding tables are estimated additional requirements to support the expansion of other programs as proposed in the Budget, and for annualization of the October 1976 pay raise. Based on recent years' experience, additional common program services requirements to support a program increase in other activities are equivalent to five percent of the dollar increase in those activities. The 1978 estimate of increases by common program services element is based on expected continuation of this relationship.

1. Executive Direction: Includes the costs of principal line and staff supervisors whose day-to-day activities include management of programs charged to more than one budget activity. This excludes the Director, Associate Director, Assistant Director for Administration, and supervisors and staff of the Washington Office and the Denver Service Center administrative divisions who charge directly to the General Administration activity. Examples of officials whose time is charged to this element include: Washington Office Assistant Directors (except Administration), the Chief of the Washington Office Division of Legislation and Regulatory Management, the twelve State Directors, and more than 60 District Managers. Other line and staff managers whose time is entirely associated with a single budget activity or subactivity are not charged here. Examples include Chief's of Washington Office technical divisions such as Range, Cadastral Survey, Forestry, Recreation, etc., and the managers of the Bureau's Outer Continental Shelf offices. No change other than pay cost annualization is forecast in this element for FY 1978.

2. General Management Staff and Clerical Support: Includes the cost of general clerical and non-clerical management support personnel whose time is not readily chargeable to specific appropriated activities, or to General Administration or executive direction. Examples are the time of personnel assigned to the Washington Office Divisions of Legislation and Regulatory Management, and Cooperative Relations; the time of secretaries assigned to management officials whose own time is charged to executive direction, the time of chief clerks (administrative officers) in District Offices, and the time of personnel in the Bureau's Division of Data Processing who work on various non-administrative ADP applications. A significant reduction in this element will occur in FY 1978 as data processing and similar work will be charged to the new budget activity "Planning and Data Management."

3. Multi-Program Coordination: Includes costs of personnel engaged in general program coordination efforts with other BLM offices and other Federal, State, and local agencies. Does not include time of staff specialists coordinating their programs on a technical basis with others working on the same technical program (their time in this instance is charged to the benefitting activity).

4. Program Evaluations: Includes time and cost of conducting general management, program, functional, and special evaluations in accordance with BLM Evaluation Manual standards. Evaluations are conducted at all levels to study the effectiveness of systems and organizations in meeting program objectives, and to recommend improvements where appropriate.

5. Employee Development: Includes time and cost of general formal training and of safety training. Technical training is charged against the benefiting activity. An example of the type of training charged to this element is supervisory training required by the Civil Service Commission.

6. Programming and Annual Work Planning: Includes costs of preparing, monitoring, and analyzing all program and annual work plan documents at the field office level. Includes preparation and submission by field offices of program packages (increase/decrease program requests), preparation and submission of annual work plans (operating budgets), preparation of progress reports (units accomplished), and mid-year and end-of-year work program reviews, performance evaluations and reports. This is the field office component of the Bureau's program management system. Related Washington Office and Denver Service Center financial management and budgeting activities are charged to the General Administration activity.

7. Public Information and Inquiries: Includes costs of general public information and education work, and work responding to general public and Congressional inquiries. Work on responses to inquiries related to a specific program (e.g. range management) is charged directly to that activity.

8. Regular Time of Permanent Employees Fighting Fires: Regular time salaries of permanent employees fighting fires are not charged to firefighting because their salaries are fully budgeted in other activities. Regular time firefighting by permanent employees (other than General Administration personnel) is charged to program services and subsequently charged back to appropriated activities through the program services financing procedures.

9. Advisory Boards: Includes all costs of chartering, conducting, and managing Multiple-Use Advisory Board meetings including travel and per diem for board members.

10. Multi-Activity Components of Land Use Planning: Includes all costs associated with general input into the BLM land-use planning system (e.g. socio-economic components, public meetings, etc.). This element will not be charged to common program services in FY 1978, but directly to the new "Planning and Data Management" activity.

11. Development of Environmental Analysis and Statement Procedures: Includes costs of developing procedures for Environmental Analyses or Impact Statements.

12. General Studies and Research: Includes costs of planning, initiating, conducting, administering, or reviewing multi-activity study and research efforts whether contracted or prepared in-house.

13. Review of Non-BLM Environmental Impact Statements: Includes costs of reviewing EIS's prepared by other agencies and submitted to BLM for review and comments.

14. Communications Systems Planning and Maintenance: Includes costs involved in planning, installing, operating, monitoring, and maintaining the Bureau's general purpose communications network, which includes a radio network, leased dedicated land lines, satellite communications, etc. Communication costs related to fire suppression are charged against emergency fire operations. In FY 1978 all costs associated with data management or remote sensing will be charged to the new "Planning and Data Management" activity.

15. Law Enforcement: Includes costs of authorized BLM law enforcement personnel, or contracted enforcement personnel, to investigate and prosecute violations of laws, regulations, or use authorizations where penalties for criminal violation exist and the Bureau has authority to place violaters under arrest (as opposed to trespass where civil penalties are involved). In FY 1978, all costs associated with this element will be charged to the new "Administration and Enforcement" activity.

16. General Cartography: Includes costs associated with preparing and printing basic series maps and general purpose charts, graphs, etc.

17. General Purpose Equipment/Tool Maintenance: Includes cost of maintaining general purpose equipment and tools. In FY 1978 these costs will be charged directly to the benefiting activities by BLM field offices.

18. Fixed Costs: Includes rent, telecommunications, utilities, postage, janitorial services, miscellaneous office supplies, and monthly charges for general purpose copy machines. This includes GSA rental payments (standard level user charges) as a matter of administrative convience for charging billings. See further explanation under "common program services" financing formula. GSA standard level user charges included in the total for this element are $5,541,000 for FY 1977 and $6,125,000 for FY 1978. Postage and Federal Telecommunications System billings are other large cost items in this element.

19. Personnel Transfer Costs: Includes all costs of travel, time in transit, transportation costs, real estate commissions, and other expenses associated with a change in duty station for Bureau employees. About 400 to 500 employees (eight percent of the total permanent work force) change duty stations each year, predominently as the result of being selected for new positions through competitive vacancy announcement procedures. Expenses for individual moves, as provided by law and regulations, range from $12,000 (Washington to Alaska or vice versa) down to a few hundred dollars for a transfer between districts in the same State where no sale of residence is involved.

20. Equipment: Cost of General Purpose capitalized and major non-capitalized equipment. The 1977 amount includes new ADP equipment (first year costs of a new computer). These costs will be a part of the "Planning and Data Management" activity in FY 1978. Other equipment in this element is primarily general purpose office and office furniture. Other equipment is charged directly to the benefiting activity.

E. Financing. Common program services costs are charged to benefiting management activities and subactivities each month on a formula basis applied through the Bureau's automated cost accounting system. Cost shares are allocated to management activities only (for example to recreation management, but not recreation construction or maintenance) to simplify the accounting procedures and because the system still provides for equitable common program services cost distributions to each total program (e.g. recreation) when all support activities are excluded. The budget activities charged include all the activities in the Management of Lands and Resources appropriation except Firefighting and Rehabilitation and General Administration, the Forest management subactivity in the Oregon and California Grant Lands appropriation, all reimbursable activities, and beginning in FY 1978, the Rights-of-Way processing activity in the Service Charges, Deposits and Forfeitures appropriation.

A common private sector accounting practice is to allocate indirect costs to different products, services, etc., based on the direct labor hours charged to producing each product or service. Because the Bureau has a mixture of contract intensive and manpower intensive activities, our practice is to use a variation of the direct labor basis formula which gives equal weight to direct labor (man/months), and total program size in dollars (appropriations). The process for establishing the formula each year is as follows:

- Determine total estimated program services costs for the year.

- Determine five percent of budgeted program increases in contributing activities and deduct this amount from the total estimate derived in the first step.

- Determine specific amounts budgeted for GSA space costs in contributing activities and also deduct this amount from the total estimate derived in the first step.

- Determine how to finance the net program services requirement by contributions from the regularly appropriated activities/sub-activities based upon an average percentage of:

  1. The number of direct man/months used during the prior fiscal year in a particular subactivity as compared to all direct chargeable man/months in all contributing subactivities.

  2. The appropriation for a particular subactivity as compared to all chargeable subactivities for the previous year.

The average of these two percentages is applied to the net program service requirement. The resulting dollar amount becomes that subactivities' share of the net program services requirement.

The addition of space costs budgeted in that subactivity together with 5% of any proposed budgetary change completes the total dollar program services contribution required from the particular subactivity.

This dollar amount is equivalent to a percentage of the total program services estimate. This percentage is entered in the Bureau's computer and is applied at the end of each month to actual cumulative program costs and thereby allocates these costs to the financing activities.

A specific example to illustrate the financing formula calculations for the wildlife subactivity for FY 1977 is as follows:

	000's
Total estimated common program services requirement	$48,004
Less GSA space in financing activities	-5,541
Less 5% of FY 1977 program increases	-1,096
Net requirement	$41,367
Percent wildlife appropriations to all contributing appropriations in prior year	2.9
Percent wildlife direct man months to all contributing program direct man months in prior year	3.9
Average of two percentages (3.4 times net requirement ($41,367) =	$ 1,406
Add space budgeted in wildlife	187
Add 5% of wildlife program increase	50
Other direct shifts from wildlife to program services	44
Total estimated financing from wildlife	$ 1,687
Total estimated financing from wildlife ($1,643) divided by total requirement ($48,004) -	.03552 %

This percentage (.03552) is the factor the computer applies each month to actual program services costs for allocation to the wildlife activity.

Once established for the year, the common program services financing formula is not changed during that year except to reflect changes due to Congressional action on the initial budget or the passage of supplemental appropriations. The basis and methodology for determining the annual formula has not been changed for the past six years and will not change for Fiscal Year 1978. The following tables reflect the financing for the estimated common program services totals for Fiscal Years 1977 and 1978. Two tables are provided reflecting the existing internal budget structure for FY 1977 and the revised structure as presented in this Budget for 1978.

FY 1977 Financing

	$000's
Lands and realty (Management of Lands and Resources)	$ 7,868
Minerals - onshore (Management of Lands and Resources)	7,223
Minerals - offshore (Management of Lands and Resources)	7,650
Trans-Alaska Pipeline (Management of Lands and Resources)	669
Range Management (Management of Lands and Resources)	5,830
Forest Management (Management of Lands and Resources)	1,979
Forest Management (Oregon and California Grant Lands)	3,361
Soil and Water Conservation (Management of Lands and Resources)	3,350
Fire Protection (Management of Lands and Resources)	1,897
Recreation Management (Management of Lands and Resources)	2,190
Wildlife Management (Management of Lands and Resources)	1,687
Cadastral Surveys (Management of Lands and Resources)	3,784
Reimbursements	516
Total, FY 1977	$48,004

FY 1978 Financing

	$000's
Energy Minerals - onshore (Management of Lands and Resources)	$ 5,459
Energy Minerals - offshore (Management of Lands and Resources)	5,193
Nonenergy Minerals - onshore (Management of Lands and Resources)	1,229
Lands and Realty Operations (Management of Lands and Resources)	4,268
Forest Management (Management of Lands and Resources)	1,173
Forest Management (Oregon and California Grant Lands)	2,483
Range Management (Management of Lands and Resources)	5,078
Recreation Management (Management of Lands and Resources)	1,568
Soil, Water, and Air Management (Management of Lands and Resources)	1,720
Wildlife Habitat Management (Management of Lands and Resources)	1,154
Fire Management (Management of Lands and Resources)	1,500
Planning for Multiple Use (Management of Lands and Resources)	2,242
Data Management (Management of Lands and Resources)	1,461
Cadastral Survey (Management of Lands and Resources)	2,996
Law Enforcement (Management of Lands and Resources)	44
Service Charges, Deposits, and Forfeitures	1,893
Reimbursements	550
Total, FY 1978	$40,011

Justification. As a multiple use land managing agency, BLM has thousands of individual employees whose salaries and other expenses during the course of a fiscal year are chargeable to more than one subactivity, activity, and appropriation. Every employee receives a time coding handbook and is instructed to charge time and other expenses to the benefitting budget activity and/or subactivity on an hourly basis. At the same time, a significant percentage of the time of certain employees (particularly line managers at all levels, and certain staff personnel) can not be readily identified with a single budget activity or subactivity. Rather than arbitrarily allocating these costs; for example, by having each line manager charge a particular budget line item, BLM uses a modern cost accounting system patterned on private sector cost accounting principles. Through the program services activity, this system allocates time and related costs not readily identifiable with a budget line item on an equitable basis to each management activity line item at the end of each month.

The program services activity also simplifies accounting for some categories of cost other than salaries, benefits, travel, etc. For example, it would be possible to keep logs of all telephone calls, radio communications, etc., and use these records to charge related costs directly to budget activities. Administrative recordkeeping costs for such a system would be excessive, out of all proportion to the benefits derived. The common program services activity provides a simplified accounting device whereby such costs can be allocated monthly by computer to the benefitting activities without resort to expensive and elaborate accounting records.

New legislation and procedures in recent years have increased the number of BLM functions not readily allocable to activities in the Bureau's old budget structure. Some examples are the land use planning system, law enforcement functions, equal employment opportunity efforts, and some activities related to carrying out the National Environmental Policy Act. Major objectives in realligning the Bureau's budget structure for 1978 were to reflect the passage of the Public Land Policy and Management Act and to establish budget line items for some relatively new functions which can be readily identified and removed from financing through the common program services account. The new planning and data management activity and law enforcement subactivity in Management of Lands and Resources, accomplish this objective, facilitating budget review of these functions, and substantially reducing funding requirements for common program services beginning in FY 1978.

MANAGEMENT OF LANDS AND RESOURCES

For expenses necessary for protection, use, improvements, 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, [$223,829,000) *$237,711,000. (16 U.S.C. 583, 594; 30 U.S.C. 22, 181; 43 U.S.C. 54, 129,315; 1181 a-b, 1181d-f; Public Law 94-579, Department of the Interior and Related Agencies Appropriation Act, 1977.)*

JUSTIFICATION OF CHANGES IN ACTIVITY CLASSIFICATIONS

Two changes in the activity classification for this appropriation are proposed to better identify the data management and law enforcement functions, and thus facilitate budget review. A major increase of $2,960,000 is proposed for financing implementation of a recently completed study of data management requirements. The study has resulted in a plan for automated storage and manipulation of large volumes of existing resource inventory and related data. Although the Bureau has been in the forefront of efforts to automate administrative systems, outdated manual procedures are largely used for storing and using resource inventory data. This has become a significant problem and drain on manpower resources, particularly as the volume of data and data analysis requirements have increased substantially in support of land use planning and environmental analysis and impact stacement procedures. The old "Planning for Multiple Use" activity has been replaced by the proposed "Planning and Data Management" activity under which "Planning for Multiple Use" and "Data Management" will be separate subactivities. Data management includes all data systems and is grouped with multiple-use planning because the two functions are closely related.

Section 303 of the Public Land Policy and Management Act of 1976 provides new comprehensive authority for enforcement of Federal laws and regulations on public lands. Previously, BLM has had only limited enforcement authority for specific violations of certain statutes such as the Wild Horse and Burro Act and the Sikes Act. The new authority provides for enforcement both by BLM employees and through contracts with state and local enforcement agencies. The Bureau intends to implement the needed new enforcement authority primarily through such contracts. The "General Administration" activity has been replsced by the proposed new "Administration and Enforcement" activity under which "General Administration" and "Law Enforcement" will be separate subactivities. The two functions are grouped as they are both support-type activities with relatively low budgets in comparison to other functions.

The "Surface Resource Use and Protection" activity has been retitled "Renewable Resource Development, Protection, and Management". This proposed change is made to better describe the functions in the activity, particularly to eliminate the "Surface" terminology which is inaccurate insofar as certain water and air quality work is concerned. Within the activity, the subactivity structure has been realligned to maintain range management; soil, water, and air management; and wildlife management as separate subactivities as they were in years prior to 1977. These programs are very closely related on the ground, but each involves substantial budget resources making separate subactivity identification appropriate. In the Fiscal Year 1977 budget these functions were displayed as a single subactivity under the title "Water, Forage and Habitat Management," which has now been deleted.

MANAGEMENT OF LANDS AND RESOURCES

Program and Financing (in thousands of dollars)

Identification code 14-1109-0-1-302	1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
Program by activities:				
Direct program:				
1. Energy and minerals management	37,413	12,236	87,814	98,295
2. Lands and realty management	31,341	9,766	35,779	24,708
3. Renewable resource development, protection, and management	49,212	14,526	60,877	63,974
4. Planning and data management	12,334	3,637	20,133	24,133
5. Cadastral survey	14,662	6,470	15,694	17,724
6. Firefighting and rehabilitation	21,853	12,560	4,750	4,750
7. Administration and enforcement	3,503	1,180	3,690	4,127
Total direct program	170,318	60,375	228,737	237,711
Reimbursable program:				
1. Energy and minerals management	--	--	--	250
2. Lands and realty management	409	235	450	650
3. Renewable resource development, protection, and management	1,459	320	3,500	3,500
5. Cadastral survey	3,473	821	1,500	1,500
6. Firefighting and rehabilitation	1,338	157	1,550	1,600
Total reimbursable program	6,679	1,533	7,000	7,500
Total program cost funded 1/	176,997	61,908	235,737	245,211
Change in selected resources (unpaid, undelivered orders)	27,992	35,416	--	--
10.00 Total obligations	204,989	97,324	235,737	245,211
Financing				
Offsetting collections from:				
11.00 Federal funds	-5,506	-176	-5,600	-5,600
14.00 Non-Federal funds	-1,004	-1,618	-1,400	-1,900
21.00 Unobligated balance available, start of period	-49 2/	-17,033	--	--
24.00 Unobligated balance available, end of period	17,033	--	--	--
25.00 Unobligated balance lapsing	--	1,237	--	--
Budget authority	215,463	79,734	228,737	237,711
Budget authority:				
40.00 Appropriation	215,463	59,734	223,829	237,711
42.00 Transferred from other accounts 3/	--	20,000	--	--
43.00 Appropriation (adjusted)	215,463	79,734	223,829	237,711
44.20 Supplemental now requested for civilain pay raises	--	--	4,908	--
Relation of obligations to outlays:				
71.00 Obligations incurred, net	198,479	95,530	228,737	237,711
72.00 Obligated balance, start of period	27,953	43,429	85,756	88,281
74.00 Obligated balance, end of period	-43,429	-85,756	-88,281	-92,252
77.00 Adjustments in expired accounts	-1,692	-54	--	--
90.00 Outlays, excluding pay raise supplemental	181,311	53,149	221,500	233,544
91.20 Outlays from civilian pay raise supplemental	--	--	4,712	196

1/ Includes capital outlay as follows: 1976, $1,096 thousand; T.Q., $1,468 thousand; 1977, $6,242; 1978, $6,242 thousand.

2/ Unobligated balance unavailable, reflects reimbursable billings for firefighting shown as direct Federal obligations in prior years.

3/ Transferred from the Land and Water Conservation Fund to cover firefighting obligations in excess of availaole appropriations.

83-561 O - 77 - 8

MANAGEMENT OF LANDS AND RESOURCES

Object Classification (in thousands of dollars)

Identification code 14-1109-0-1-302		1976 Act.	T.Q. Act.	1977 Act.	1978 Act.
	Direct obligations:				
	Personnel compensation:				
11.1	Permanent positions	60,753	15,054	68,830	69,000
11.3	Positions other than permanent	15,491	7,440	17,987	20,113
11.5	Other personnel compensation	3,804	3,507	4,720	4,883
11.8	Special personal services payments	1,598	1,442	4,000	4,000
	Total personnel compensation	81,646	27,443	95,537	97,996
12.1	Personnel benefits: Civilian	11,053	3,450	12,091	13,039
21.0	Travel & Transportation of persons	7,086	2,753	8,456	9,056
22.0	Transportation of things	4,060	2,087	3,921	4,027
23.0	Rent, communications, & utilities:				
23.1	Standard level user charges	5,171	1,086	6,225	6,571
23.2	Other rent, communications, & utilities	4,777	2,669	4,957	5,413
24.0	Printing and reproduction	1,078	364	2,126	1,600
25.0	Other services	66,575	47,848	69,074	71,526
26.0	Supplies and materials	9,456	4,252	12,843	13,000
31.0	Equipment	6,323	2,511	6,934	8,528
32.0	Lands and structures	1,096	1,468	6,242	6,242
41.0	Grants, subsidies and contributions	1	1	1	1
42.0	Insurance claims & indemnities	12	6	528	910
	Subtotal	198,334	95,938	228,935	237,909
95.0	Quarters & subsistance charges	-198	--	-198	-198
	Total direct obligations	198,136	95,938	228,737	237,711
	Reimbursable obligations:				
	Personnel compensation:				
11.1	Permanent positions	1,372	468	1,468	1,556
11.3	Positions other than permanent	1,750	188	1,871	1,982
11.5	Other personnel compensation	46	15	50	55
	Total personnel compensation	3,168	671	3,389	3,593
12.1	Personnel benefits: Civilian	306	66	327	347
21.0	Travel & transportation of persons	451	179	478	510
22.0	Transportation of things	190	57	201	213
23.2	Rent, communications and utilities: Other rent, communication, & utilities	278	4	280	290
24.0	Printing & reporduction	14	14	15	15
25.0	Other services	1,551	237	1,359	1,524
26.0	Supplies & Materials	538	116	570	604
31.0	Equipment	65	14	75	80
32.0	Lands & structures	289	28	306	324
42.0	Insurance claims & indemnities	3	--	--	--
	Total reimbursable obligations	6,853	1,386	7,000	7,500
99.0	Total obligations	204,989	97,324	235,737	245,211

MANAGEMENT OF LANDS AND RESOURCES

Personnel Summary

	1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
Direct:				
Total number of permanent positions	4,107	--	4,544	4,496
Full-time equivalent of other positions	1,838	--	1,984	2,186
Average paid employment	5,526	--	6,103	6,214
Average GS grade	9.39	--	9.33	9.33
Average GS salary	$15,138	--	$15,747	$15,982
Reimbursable:				
Total number of permanent positions	165	--	165	165
Full-time equivalent of other positions	200	--	205	180
Average paid employment	283	--	286	257
Average GS grade	9.39	--	9.33	9.33
Average GS salary	$15,138	--	$15,747	$15,982

BUREAU OF LAND MANAGEMENT

Acquisition, Construction and Maintenance

Appropriation, 1977	$10,160,000
Unobligated balances of appropriations from prior years	1,852,000
Programmed unobligated balances of contract authority from prior years	6,100,000
Total available for obligation	$18,112,000
Decreases:	
Acquisition and Construction	$11,041,000
Maintenance	7,071,000
Subtotal	$18,112,000
Increases:	
Acquisition and Construction	$10,170,000
Maintenance	7,388,000
Budget Estimate 1978	$17,558,000

BUREAU OF LAND MANAGEMENT

Acquisition, Construction, and Maintenance
Analysis by Activities

	Appropriation 1976	Appropriation 1977	No.of Perm. Pos'n	1978 Budget Estimate	No.of Perm. Pos'n	Budget Estimate 1978 Compared with 1977 Appropriation	No.of Perm. Pos'n	Page Ref.
1. Acquisition and Construction								
Appropriation	$ -1,562,000	$-10,532,000	100	$10,170,000	107	$ 20,702,000	+7 a/	112
Unobligated balance brought forward	31,019,000	21,573,000		--		-21,573,000		
Obligation Program	5,686,000	11,041,000		10,170,000		-871,000		
Unobligated balance carried forward	$ 23,771,000	--		--		--		
2. Maintenance								
Appropriation	$ 6,066,000	$ 6,792,000	85	$ 7,388,000	55	$ +596,000	-30 b/	121
Unobligated balance brought forward	406,000	279,000		--		-279,000		
Obligation Program	6,061,000 c/	7,071,000		7,388,000		+317,000		
Unobligated balance carried forward	$ 411,000	--		--		--		
Total Appropriation	$ 4,504,000	$ -3,740,000	185	$17,558,000	162	$ 21,298,000	-23	
Total unobligated balance brought forward	31,425,000	21,852,000		--		-21,852,000		
Total obligation program	11,747,000	18,112,000		17,558,000		-554,000		
Total unobligated balance carried forward	$ 24,182,000	--		--		--		

a/ Access program positions transferred from "Management of Lands and Resources."

b/ Equipment operators, mechanics, etc. transferred to the "Working Capital fund" in 1978.

c/ Excludes reimbursable program.

1. Construction and Acquisition: Fiscal Year 1977, $-10,532,000; Fiscal Year 1978, $10,170,000; increase of $20,702,000.

	Increase(+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
A.	+820,000	-	$ 3,735,000	22	Building Construction
B.	+647,000	-	1,100,000	6	Recreation Construction
C.	+17,975,000	-18	4,075,000	54	Road and Trail Construction
D.	+1,100,000	+25	1,100,000	25	Acquisition
E.	+160,000	-	160,000	-	Annualization of Pay Costs
	$+20,702,000	+ 7	$10,170,000	107	

PROGRAM SYNOPSIS

Subactivity	FY 1977 Estimate	FY 1978 Estimate	Change
Building Construction	$ 2,915,000	$ 3,735,000	$ +820,000
Recreation Construction	453,000	1,100,000	+647,000
Road and Trail Construction	-13,900,000 1/	4,075,000	+17,975,000
Acquisition	--	1,100,000 2/	+1,100,000
Pay Costs	--	160,000	+160,000
Total	$-10,532,000	$10,170,000	$+20,702,000

1/ The $-13,900,000 reflects unfunded contract authority rescinded by Public Law 94-373. The new obligation program for road and trail construction in FY 1977 was $4,075,000, the same amount as the 1978 request.

2/ The estimate reflects $925,000 available in 1977 in the Public Lands Development Roads and Trails obligation program and $175,000 transferred from Management of Lands and Resources to consolidate acquisition funding in one subactivity. On an obligation program basis, the $1,100,000 estimate is identical with the amount available in FY 1977.

Construction is a zero based program. New projects for FY 1978 include:

Buildings

Glennallen, Alaska	$ 425,000
Cedarville, California	340,000
Craig, Colorado	455,000
Boise, Idaho	1,750,000
Shoshone, Idaho	535,000
Survey, Design & Administration	230,000
Total Building Construction	$3,735,000

Recreation Projects

Yuha Way Station	955,000
Survey, Design & Administration	$ 145,000
Total Recreation Construction	$1,100,000

Roads and Trails	
Timber Support	$1,110,000
Recreation Support	1,620,000
Multiple Use	1,345,000
Total Roads and Trails	$4,075,000
Acquisition	
Title, appraisal, easement purchases	$1,100,000
Pay Costs	$ 160,000

A. Buildings Construction: Fiscal Year 1977, $2,915,000; Fiscal Year 1978, $3,735,000; an increase of $820,000.

MAJOR PROGRAM CHANGES

A. Building Construction: +$820,000, Total $3,735,000
Total 22 Positions.

Proposal: The following projects are proposed for construction FY 1978:

Alaska	Glennallen Resource Area Headquarters	Water and sewage facilities	$ 425,000
California	Surprise Resource Area Headquarters	Office and storage facilities	340,000
Colorado	Craig District	Warehouse	455,000
Idaho	Boise District	Office, shop, warehouse, fire and electronics bldgs.	1,750,000
Idaho	Shoshone District	Warehouse	535,000
All States	Survey, Design & Administration		230,000
Total			$3,735,000

Justification:

Glennallen, Alaska - Water and Sewage Facilities $425,000

The Glennallen Resource Area Headquarters and Fire Control Station has 10 permanent year round personnel who are joined by 7 firefighters during the summer. On occasion the fire station must accommodate 65 firefighters depending on weather conditions. Sewage is disposed of by septic tanks and leach fields in the main compound. The system is old, difficult to maintain because of permafrost conditions, and fails to meet EPA or Alaskan health standards. At the Fire Station there are no sanitary facilities at all, requiring that wastes be carried to the inadequate septic system at the Headquarters.

Proposed construction involves an aerated lagoon with sewer lines to the Resource Area Headquarters and Fire Station. Chlorination for the existing water system will also be provided. These utilities will provide personnel at Glennallen with sanitary and water facilities at an EPA approved standard.

Cedarville, California - Resource Area Headquarters $340,000

The Surprise Resource Area consists of 1.8 million acres of public lands in California and Nevada, and is part of the BLM's Susanville District. In 1974, BLM established a headquarters office for the resource area in

Cedarville to provide for closer and more effective resource management. Prior to 1974, 19% of the resource area staff's field time was spent travelling the 130 mile one-way trip from Susanville to Cedarville. Existing facilities at Cedarville include a fire station and a temporary trailer used as an office. Storage and warehouse facilities are not available to provide security for necessary tools and equipment. The space in the trailer is insufficient to accomodate projected program needs, and at best is an interim solution to the long term space requirements at Cedarville.

Funds requested will provide an office, shop, and necessary storage space for sixteen employees.

Craig, Colorado - Warehouse $455,000

The Craig District has assumed increased responsibilities in the area of energy development, particularly with respect to coal and oil shale programs. Workloads have necessitated a staff increase from 16 permanent personnel in 1969 to 38 in 1976. To accommodate the increased staff an office building was constructed during FY 1976. At the same time the District's warehouse and yard facilities are being used beyond their designed capacity. They are located on the opposite side of town from the office building resulting in time lost traveling between them, and creating difficulties in providing adequate security.

The requested funds will provide 5,600 square feet of warehouse and storage space on the site of the existing office, completing a single consolidated complex initiated in FY 1976.

Boise, Idaho - District Office Complex $1,750,000

BLM's District Office complex in Boise, Idaho, is no longer adequate in terms of space, location, and safety of operation. The complex once located "outside of town" is now being surrounded by a city that has grown from 34,000 in 1960 to 86,000 in 1975 (120,000 in the metropolitan area). District operations are incompatible with surrounding land uses and have been publicly criticized by city officials. Located adjacent to the complex are two hospitals, a veteran's retirement center, and a new community center as well as the city's business district. Helicopter operations to and from the complex have been terminated for safety reasons. The movement of fire suppression equipment, men, supplies and equipment such as tractor transports through the city must now be accomplished with a city escort vehicle.

Existing facilities are insufficient to house the District staff, necessitating the use of trailers and warehouses as supplemental office space. The staff includes 41 permanent positions and as many as 132 temporary employees during the summer.

Construction of a new complex at a 17 acre site adjacent to BLM's Boise Interagency Fire Center at the Boise airport would allow for adequate office and storage space, efficient fire operations, and provide for much better land utilization. The land on which the existing complex stands could be utilized in a manner more consistent with its urban location.

Required construction includes an office building, shop, warehouse facilities, a fire operation building, and an electronics building.

Shoshone, Idaho - Warehouse $535,000

During FY 1975, an office building was constructed for the Shoshone District Headquarters on a site just outside of town. Warehouse and storage facilities remain at the old District office site on the other side of town. These facilities were originally constructed for the C.C.C. more than 30 years ago and are inadequate for BLM needs. Funds requested for FY 1977 will complete the

complex necessary for administration of the public land in the District. The proposal includes vehicle storage, shop and warehouse facilities totalling 15,000 square feet.

Survey, Design & Administration $230,000

To provide capability for survey, design and analysis of program needs subsequent to the budget year; also provides administration of ongoing construction contracts.

PROGRAM DESCRIPTION

A. Building Construction — FY 1978 Total $3,735,000
Total 22 Positions

The necessary buildings and appurtenant facilities, such as office buildings, warehouses, equipment storage buildings, fire stations and lookouts, district storage yards, parking areas, and housing in isolated areas, are constructed to carry out Bureau programs.

B. Recreation Construction: Fiscal Year 1977, $453,000; Fiscal Year 1978, $1,100,000; an increase of $647,000.

MAJOR PROGRAM CHANGES

B. Recreation Construction: +$647,000; Total $1,100,000
Total 6 Positions

Proposal: Construct the Yuha Way Station in the California Desert at a cost of $995,000 and perform necessary survey and design for future recreation construction projects.

FY 1978 Recreation Construction Program

California	Yuha Way Station	$ 955,000
All States	Survey, Design & Administration	145,000
		$1,100,000

The Yuha Way Station will be the center of the BLM's visitor management program for the Yuha Desert. Visitors will receive information which will assist them in finding the proper place for the particular recreation interest they are seeking, and will provide hints about how to conduct themselves in the fragile desert environment, both for their own safety and for desert protection.

The Yuha Way Station site is located 26 miles west of El Centro, California on Interstate 8. The project consists of 7,000 square feet of floor space which will provide interpretive material, hazard information, displays such as maps, and regulations for the use of visitors, and administrative space for the BLM resource management personnel. Also provided will be off-road parking, drinking water, trash receptacles, and sanitary facilities including a tariler waste disposal station. Attached to the Way Station will be 15 BLM desert rangers who will provide visitors with information and assistance.

Justification: The California Desert is a unique management situation. It is the only desert in the world located adjacent to a large population with the affluence, mobility, leisure time and desire to make use of its vast array of desirable characteristics. Use of the desert by recreationists is often made

without appreciation of its dangers or of the fragile character of its environment. The Yuha Way Station is one of eight proposed for the management of the California Desert. The first, at Barstow was completed in 1975.

The Yuha Desert received approximately 286,000 visitor days of use in FY 1974. It contains unique resources such as Fossil Canyon, Painted Gorge, and the Oyster Beds which have already received considerable irreparable damage. Seventy percent of the area's use is noncompetitive ORV (off-road vehicle) oriented, a type of activity prone to damage the desert environment if not controlled and managed properly.

PROGRAM DESCRIPTION

B. Recreation Construction — Total $1,100,000
Total 6 Positions

Recreation facilities for family camping, picnicking, and other outdoor recreational activities are constructed on public land sites receiving heavy public use. These facilities provide safe camping and picnicking units, potable water, sanitary facilities, and other improvements to assure public health and safety as well as to prevent stream pollution and fire damage to resources.

C. Road and Trail Construction: (The obligation program level for FY 1977 is $6,100,000 including $1,100,000 originally programmed for obligation prior to FY 1977. and $925,000 for acquisition of easements, a function to be transferred to the Acquisition subactivity in Fiscal Year 1978.

Fiscal Year 1977,-$13,900,000; Fiscal Year 1978, $4,075,000; an increase of $17,975,000.

ROADS PROVIDE ACCESS TO PUBLIC LANDS

1/ Unobligated and unfunded contracted authority rescinded in FY 1977.

MAJOR PROGRAM CHANGES

C. Road and Trail Construction: +$17,975,000, Total $4,075,000;
-18 positions 1/; total 54 positions.

FY 1978 Road and Trail
Construction Program

	($000's)
Roads and Support of Timber Program	$1,110
Roads and Trails in Support of Recreation	1,620
Multiple Use Roads	1,345
Total Road and Trail Construction	$4,075

Proposal: Provide safe access to the public lands by constructing roads, trails, and bridges. The FY 1978 road and trail construction program is at the same level as FY 1977 exclusive of carryover planned obligations and access functions. The program is summarized below.

FY 1978 Road and Trail Construction Program
(000's of Dollars)

	Timber Support	Recreation Support Roads	Recreation Support Trails	General Support	Total
Alaska					
Arizona		270		55	325
California	510		320		830
Colorado	40	140		130	310
Idaho	380			30	410
Montana	20			195	215
Nevada		400		30	430
New Mexico				30	30
Oregon	140	80		425	645
Utah		410		70	480
Wyoming	20			380	400
	1,110	1,300	320	1,345	4,075

(Output by Units)

	Timber Support	Recreation Support Roads	Recreation Support Trails	General Support	Total
Grading	9 mi.	16 mi.		51 mi.	76 mi.
Surfacing	10 mi.	11 mi.		3 mi.	24 mi.
Trails			25 mi.		25 mi.
Bridges	1 ea.			17 ea.	18 ea.

The FY 1978 program concentrates on reconstructing roads along the paths of existing roads where heavy traffic has either exceeded the capacity of the existing road or has damaged the road to the point where a new one is needed. Of the 76 miles of roads planned for construction, only 4 miles are of totally new construction. BLM road construction standards vary from single-lane graded dirt roads to double-lane surfaced roads leading to and from heavy use areas.

1/ Positions shifted to "Acquisition" reflecting establishment of that subactivity.

In prior years road and trail construction has emphasized support of BLM's timber management program at the expense of other road requirements. With the overall growth of BLM's responsibilities in the multiple use management of the public lands, a more equitable balance among the three road program components is planned in FY 1978.

Justification: An adequate road and trail system is prerequisite to optimal resource management; but, of the 44,000 miles of existing roads, 32,000 are still classified as primitive, and approximately 30,000 are in need of upgrading. Most of the roads do not meet safety standards, and many can only be used seasonally. About 6,700 miles of additional road construction and 14,000 additional miles of trail have been identified as necessary to serve the long term management needs on the public lands. In addition, many wooden bridges constructed during the 1930s have rotted and must be replaced

Roads in Support of Timber Program $1,110,000

Over the long term, timber from the public lands will provide much of the material to satisfy the anticipated growth in the nation's need for wood products, and help prevent future timber shortages as housing starts continue to rise. Timber related roads built with appropriated funds generally provide access to larger areas where more than one sale may be held, and where overall resource values contribute to the roads' benefits. In order to sustain the flow of future timber supplies, new stands of timber must be made available by developing a road net from which harvest operations can be conducted.

Roads and Trails in Support of Recreation Programs $1,620,000

Under this component of the road and trail construction program, roads are built to accommodate the increasing use of the public lands for recreation purposes. In terms of sheer numbers of vehicles, the greatest traffic on BLM roads comes from people utilizing the public lands as a place for leisure activity (an estimated 79 million visits in 1975). It is this traffic that places the greatest burden on the existing road system which was not originally designed to accommodate present use levels or passenger type vehicles. The primitive character of most BLM roads can be hazardous to motorists who are accustomed to the highly developed roads in urban areas. Because of the limited area to which the existing road system provides access, many areas are overcrowded with recreationists. New roads are needed to channel users away from saturated areas to other areas that can still accommodate increased recreation use.

Included in the FY 1978 request is construction of an additional 25 miles of the Pacific Crest Trail in California in conjunction with State and U.S. Forest Service development; and public road and trail recreation access in Arizona, Colorado, Nevada, Oregon, and Utah.

General Support Roads $1,345,000

This category of the program includes road construction for fire protection and for the discharge of other multiple resource management responsibilities. The FY 1978 program includes construction of several small road segments in Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming; and reconstruction of hazardous bridges in Idaho, Montana, and Wyoming.

PROGRAM DESCRIPTION

C. Road and Trail Construction — Total $4,075,000
Total 54 Positions

Roads, trails and bridges necessary for access to over 400 million acres of public lands are constructed within this subactivity.

MAJOR PROGRAM CHANGES

D. Acquisition — +$1,100,000; Total $1,100,000
+25 Positions; Total 25 Positions

Proposal: Under this program, the Bureau acquires legal access to the public lands by easement acquisition and purchase of private inholdings or lands adjacent to public lands when such acquisition will clearly promote efficient resource management. Easements to be purchased will support the recreation, timber and general resource management program. Unit outputs for each of these programs are: Recreation, 11 easements; Timber, 126 easements; and General Support, 90 easements. No purchase of inholdings or of lands adjacent to public lands are planned for FY 1978.

Justification: Before any of the public lands can be utilized by the public or managed by BLM, physical and legal access must exist. Private land holdings block access to much of the public lands.

ROAD EASEMENTS MUST BE ACCURATELY SURVEYED BEFORE PURCHASE

PROGRAM DESCRIPTION

D. Acquisition — Total $1,100,000
Total 25 Positions

Road and trail easements across private lands are acquired to provide access to the public lands to facilitate resource management.

E. Pay Costs: — Total $160,000

The requested increase of $160,000 is the amount required to annualize the October 1976 pay raise for civilian employees in this activity.

2. Maintenance: Fiscal Year 1977, $6,792,000; Fiscal Year 1978, $7,388,000; increase of $596,000. The increase consists of:

	Increase(+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
A.	$+400,000	-1 1/	$2,011,000	16	Building Maintenance: To upgrade maintenance of facilities in Alaska and at designated locations in the Lower 48 States.
B.	+100,000	- 5 1/	3,064,000	16	Recreation Maintenance: For replacement of 12 pit toilets with vault toilets.
C.	--	-24 1/	2,217,000	23	Road Maintenance: no change.
D.	+ 96,000	--	96,000	--	Pay Costs.
	$+596,000	-30	$7,388,000	55	

PROGRAM SYNOPSIS

Subactivity	FY 1977 Estimate	FY 1978 Estimate	Change
Building Maintenance	$1,611,000	$2,011,000	$+400,000
Recreation Maintenance	2,964,000	3,064,000	+100,000
Road Maintenance	2,217,000	2,217,000	
Pay Costs		96,000	96,000
Total	$6,792,000	$7,388,000	$+596,000

Under the maintenance activity, office buildings and other buildings, roads and trails, and developed and undeveloped recreation sites are maintained so that they retain their value for efficient program performance and for the benefit and safety of the using public. Program increases in FY 1978 will correct deficiencies at field locations in Alaska and at designated locations in the Lower 48 States with emphasis on safety, health, pollution problems, and energy conservation.

A. Building Maintenance: Fiscal Year 1977, $1,611,000; Fiscal Year 1978, $2,011,000; increase of $400,000.

MAJOR PROGRAM CHANGES

A. Building Maintenance: $+400,000, total $2,011,000; total 16 positions.

Proposal: The increased funds requested will enable BLM to upgrade its building maintenance effort with respect to the safety of its facilities, energy conservation, and preservation of facilities value. The bulk of the increase will be utilized in Alaska and is categorized below.

	Increase for FY 78
Safety and Health	$ 90,000
Energy Conservation	110,000
Pollution Control	65,000
Buildings and Grounds	135,000
Total Increase	$400,000

1/ Positions transferred to the "Working Capital Fund."

Safety and Health items will correct OSHA violations, electrical hazards, and instances of unsafe drinking water identifed by safety inspections and routine maintenance surveys. Safety and Health items include sanitation devices at 8 field locations in Alaska where drinking water comes from wells, and the replacement of 45 year old wiring at BLM's Zortman, Montana Field Station.

Energy Conservation items include insulation and other measures taken to reduce fuel consumption for heating and air conditioning. Such measures will be taken at 16 locations Bureau-wide. Eleven locations will be in Alaska.

Maintenance and replacement of sanitary facilities fall under the Pollution Control category. Included for FY 1977 are the replacement of 6 pit toilets with vault toilets, and corrective maintenance of sanitary systems at 4 fire stations in Alaska.

The requested increase for Buildings and Grounds will provide corrective maintenance which will preserve the value and extend the life of BLM's physical plant. In FY 1978, Buildings and Grounds maintenance will be upgraded on 50,000 square feet of buildings in Alaska, 39,740 square feet of yard area in Montana, and a deteriorating warehouse in Wyoming will be repaired.

Justification: Alaska represents a particular maintenance problem for the Bureau. BLM installations are scattered throughout the State for management of the nearly 300 million acres of public lands which account for 82% of the State's area. Sixty-five buildings at 10 locations are in use year long. An additional 51 buildings at 11 locations are used during the summer as fire bases, or as headquarters for cadastral survey and resource management personnel. Since many of the facilities are located in the outlying areas, transportation, travel, and material costs are greater than those in the Lower 48 States. Buildings used on a seasonal basis must be winterized in the fall and reopened in the spring at a cost Statewide of over $50,000.

Because of the growth in BLM's responsibilities for management in Alaska, personnel have been added resulting in overloading of existing facilities. Workload has increased nearly 50% since 1972 necessitating additional support facilities which have been added at Glennallen, Bethel, Kotzebue, and Fairbanks.

The proposed increase for FY 1978 will alleviate some of the special maintenance problems in Alaska. Funds for the Lower 48 will be used to correct problems in Wyoming and Montana.

Cost Factors: Four temporary man years at an average cost of $8,400, $33,600; travel, per diem, transportation, supplies and contractual services, $366,400.

PROGRAM DESCRIPTION

A. Building Maintenance: Total $2,011,000
Total 16 Positions

BLM maintains approximately 550 buildings containing 975,000 square feet. Included are office buildings, warehouses, shops, storage buildings, fire stations and lookouts, and other related facilities. Also maintained are 450 acres of parking, storage, and assembly areas. Most of the work is accomplished by private contractors. The objective of the Building Maintanenace program is to protect the investment in the Bureau's operating facilities, to provide safe efficient working conditions for BLM employees, and to ensure the safety of the visiting public.

B. Recreation Maintenance: Fiscal Year 1977, $2,964,000; Fiscal Year 1978, $3,064,000; increase of $100,000.

MAJOR PROGRAM CHANGES

B. Recreation Maintenance: $+100,000; Total $3,064,000
No change; Total 16 Positions

Proposal: Replace 12 pit toilets with vault-type toilets.

Justification: Under Executive Order 11572, BLM is required to replace pit toilets with sealed vault toilets to prevent sewage from contaminating ground water around its campsites. There are 35 pit toilets in Alaska, Oregon and Wyoming at heavily used campgrounds that need to be converted. Other pit toilets receiving comparatively light use are scheduled for conversion in in future years. Increased funds will enable BLM to complete the conversions required by Executive Order 11572 at an accelerated rate and reduce pollution resulting from heavily used, substandard pit toilets by 1980.

Cost Factors: Contractual services $100,000.

TRASH COLLECTION ALONG SCENIC WATERWAYS IS A CONTINUOUS JOB

B. Recreation Maintenance: Total $3,064,000
Total 16 Positions

BLM maintains more than 4,000 family units consisting of picnic tables, sanitary facilities, camping areas, fireplaces and, at many locations, a water supply. Maintenance involves the collection of trash, replacement of worn out

83-561 O - 77 - 9

facilities and the installation of chlorination devices where well water is found to be unsafe. The objective is to protect BLM's investment in its recreation facilities, provide for the health and safety of facility users, and to prevent resource degradation.

Clean up is provided on the 450 million acres of public lands where there are no developed recreation facilities. Trash is collected at sites where high visitor use has occurred, along road sites and waterways, and at unauthorized dump areas. The objectives of the program are to insure that the scenic attractiveness of the public lands is preserved, and that accumulated trash, garbage, broken bottles, and other items left behind by careless visitors do not present a health or safety hazard to others.

MAJOR PROGRAM CHANGES

C. Road and Trail Maintenance: No change.

WELL MAINTAINED ROADS REDUCE OVERALL MAINTENANCE COSTS AND PREVENT EROSION

PROGRAM DESCRIPTION

C. Road and Trail Maintenance: Total $2,217,000
Total 23 Positions

This subactivity provides for preventive and corrective maintenance on the public lands access roads under Bureau jurisdiction. Approximately 1,200 miles or corrective and 6,510 miles of preventive maintenance will be performed in FY 1978.

D. Pay Costs: +$96,000, Total $96,000

The requested increase of $96,000 is the amount required to annualize the October 1976 pay raise for civilian employees in this activity.

THE PACIFIC CREST TRAIL IS WELL MAINTAINED

ACQUISITION, CONSTRUCTION AND MAINTENANCE

For [acquisition,] *acquisition of lands and interests therein, and* construction and maintenance of buildings, *recreation facilities, roads, trails, and* appurtenance facilities [and other improvements, and maintenance of access roads, $10,160,000] *$17,558,000,* to remain available until [expended.] expended, and

[PUBLIC LANDS DEVELOPMENT ROADS AND TRAILS (LIQUIDATION OF CONTRACT AUTHORITY)]

[For] *for* liquidation of obligations incurred pursuant to authority contained in title 23, United States Code, section 203, [$5,000,000) *$1,924,000,* to remain available until expended [: *Provided,* That $13,900,000 of unobligated balances of contract authority provided by the Federal-Aid Highway Act of 1973 (P.L. 93-87) and proposed to be unobligated as of September 30, 1977, is hereby rescinded effective October 1, 1976] [*Department of the Interior and Related Agencies Appropriation Act, 1977.)*] *(Public Law 94-579: Department of the Interior and Related Agencies Appropriation Act, 1977.)*

JUSTIFICATION OF CHANGES IN APPROPRIATION LANGUAGE AND ACTIVITY CLASSIFICATIONS

The Federal Land Policy and Management Act of 1976 has provided BLM with new road construction authority (Section 502) as well as more comprehensive easement acquisition, fee title acquisition, and exchange authorities (Sections 205 and 206). In line with these new authorities, the Budget proposes merging the public domain road and trail construction program, previously funded under "Public Lands Development Roads and Trails" (authorized by the Federal-Aid Highway Act) with other construction and maintenance functions in the retitled "Acquisition, Construction and Maintenance" appropriation. The new appropriation retains the previous "Construction" and "Maintenance" activities. Road and trail construction and acquisition will be separate subactivities under the Construction activity.

The proposed appropriation language more accurately describes the acquisition function. It provides budget authority of $17,558,000 equal to planned new obligations in Fiscal Year 1978, and $1,924,000 to liquidate prior year unfunded obligations under "Public Lands Development Roads and Trails". With the proposed account merger, no further appropriations for liquidation of Federal-Aid HIghway Act contract authority will be needed after Fiscal Year 1978.

Most BLM road and trail construction projects are relatively small and are completed within a fiscal year. Using budget authority rather than contract authority to finance this construction will eliminate the situation encountered in some years when contract awards had to be delayed because liquidating appropriations would not be available until the next year. The account merger also simplifies the Bureau's budget structure without reducing the program information provided in the Budget.

Program and Financing (in thousands of dollars)

Identification Code 14-1110-0-1-302	Costs to this Appropriation						Analysis of 1978 Financing			
	Tot. Est.	To June 30, 1975	1976 Actual	T.Q. Actual	1977 Est.	1978 Est.	Deduct Selected Resources and Un-Obligated Balance, Start of Period	Add Selected Resources and Un-Obligated Balance, End of Period	Appropriation Required, 1978	Appropriation Required to Complete
Program by activities:										
Direct program:										
1. Acquisition & Construction	80,897	23,634	6,414	1,980	11,041	12,094	3,088	1,164	10,170	27,658
2. Maintenance	22,559	--	5,771	2,329	7,071	7,388	1,092	1,092	7,388	--
Total direct program	103,456	23,634	12,185	4,309	18,112	19,482	4,180	2,256	17,558	27,658
Reimbursable program:										
1. Acquisition & Construction	80	--	80	--	--	--	--	--	--	--
2. Maintenance	537	--	507	30	--	--	--	--	--	--
Total reimbursable program	617	--	587	30	--	--	--	--	--	--
Total program costs, funded	104,073	23,634	12,772	4,339	18,112	19,482	4,180	2,256	17,558	27,658
Change in selected resources (undelivered orders)	--	--	-438	-369	--	-1,924				
10.00 Total obligations	--	--	12,334	3,970	18,112	17,558				
Financing										
11.00 Offsetting collections: from Federal funds	--	--	-587	-32	--	--				
Unobligated balance available, start of period:										
21.40 Appropriation	--	--	-1,425	-2,365	-1,852					
21.49 Contract authority	--	--	-30,000	-21,817	-20,000	--				
Unobligated balance available, end of period:										
24.40 Appropriation	--	--	2,365	1,852	--	--				
24.49 Contract authority	--	--	21,817	20,000	--	--				
25.49 Unobligated balance lapsing	--	--	--	667	--	--				
Budget authority	--	--	4,504	2,275	-3,740	17,558				
Budget authority										
40.00 Appropriation	--	--	7,687	3,396	15,160	19,482				
40.49 Appropriation to liquidate contract authority	--	--	-3,183	-1,121	-5,000	-1,924				
43.00 Appropriation (adjusted)	--	--	4,504	2,275	10,160	17,558				
49.11 Contract authority rescinded (90 Stat. 1043)	--	--	--	--	-13,900	--				
Budget authority is distributed as follows:										
Construction and Maintenance	--	--	9,404	2,275	10,160	--				
Public Lands Development Roads & Trails	--	--	-4,900	--	-13,900	--				
Acquisition Construction & Maintenance	--	--	--	--	--	17,558				

Acquisition, Construction, and Maintenance

		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Relation of obligations to outlays				
71.00	Obligations incurred, net	11,747	3,938	18,112	17,558
	Obligated balance, start of period:				
72.40	Appropriation	3,597	2,788	2,779	4,891
72.49	Contract authority	695	795	824	1,924
	Obligated balance, end of period:				
74.40	Appropriation	-2,788	-2,779	-4,891	-6,626
74.49	Contract authority	-795	-824	-1,924	--
90.00	Outlays	12,456	3,918	14,900	17,747
	Outlays are distributed as follows:				
	Construction & Maintenance	8,128	2,911	9,900	--
	Public Lands Development Roads and Trails	4,327	1,007	5,000	--
	Acquisition, Construction, and Maintenance	--	--	--	17,747

Status of Unfunded Contract Authority (in thousands of dollars)

Unfunded balance, start of period	30,695	22,612	20,824	1,924
Unfunded balance rescinded (90 Stat. 287,1043)	-4,900	--	-13,900	--
Unfunded balance lapsing	--	-667	--	--
Appropriation to liquidate contract authority	-3,183	-1,121	-5,000	-1,924
Unfunded balance, end of period	22,612	20,824	1,924	--

Acquisition, Construction, and Maintenance
Object Classification (in thousands of dollars)

Identification Code 14-1110-0-1-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Direct obligations:				
	Personnel compensation:				
11.1	Permanent positions	2,828	732	3,325	2,500
11.3	Positions other than permanent	1,703	559	1,746	1,816
11.5	Other personnel compensation	101	45	110	10
	Total personnel compensation	4,632	1,336	5,181	4,326
12.1	Personnel benefits: Civilian	458	129	515	430
21.0	Travel & transportation of persons	309	112	415	427
22.0	Transportation of things	468	172	776	786
23.2	Rent, communications & utilities: Other rent, communications, & utilities	74	16	143	143
24.0	Printing & reproduction	5	5	52	52
25.0	Other services	1,382	615	2,117	3,130
26.0	Supplies & materials	778	319	2,023	2,023
31.0	Equipment	283	130	907	937
32.0	Lands & structures	3,352	1,108	5,983	5,304
42.0	Insurance claims & indemnities	1	--	--	--
	Total direct obligations	11,742	3,942	18,112	17,558
	Reimbursable obligations:				
	Personnel compensation:				
11.3	Positions other than permanent	438	--	--	--
11.5	Other personnel compensation	2	30	--	--
	Total personnel compensation	440	30	--	--
12.1	Personnel benefits: Civilian	26	2	--	--
21.0	Travel & transportation of persons	4	--	--	--
22.0	Transportation of things	42	-1	--	--
23.2	Rent, communications, & utilities: Other rent, communications, & utilities	12	--	--	--
25.0	Other services	9	2	--	--
26.0	Supplies & materials	53	-5	--	--
31.0	Equipment	6	--	--	--
	Total reimbursable obligations	592	28	--	--
99.0	Total obligations	12,334	3,970	18,112	17,558

Personnel Summary				
Direct				
Total number of permanent positions	179	--	185	162
Full-time equivalent of other positions	153	--	155	187
Average paid employment	306	--	305	340
Average GS grade	9.39	--	9.33	9.33
Average GS salary	$15,138	--	$15,747	$15,982
Reimbursable:				
Full-time equivalent of other positions	52	--	--	--
Average paid employment	52	--	--	--

BUREAU OF LAND MANAGEMENT

Payments in Lieu of Taxes

Appropriation, 1977.....-0-[1/]

SUMMARY OF INCREASES AND DECREASES, 1977

Federal Land in Lieu of Tax Payments	Base for 1978	Increase 1978
Payments to Local Governments	--	+$100,000,000

1/ A supplemental of $100,000,000 for FY 1977 is contained in the FY 1978 President's Budget and is to be transmitted separately.

PAYMENT IN LIEU OF TAXES

Analysis by Activity
(Direct Appropriations)

	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
Payments to local governments	--	-- a/	$100,000,000	+$100,000,000	132

a/ A supplemental of $100,000,000 is requested for fiscal year 1977.

Payments in Lieu of Taxes: FY 1977, $-0-; FY 1978, $100,000,000; an increase of $100,000,000.

Increase(+) or Decrease(-) Amount	Positions	Total Program	Total Positions	Explanation
+$100,000,000	-0-	$100,000,000	-0-	To provide for payments to local jurisdictions for Federal lands under provision of P.L. 94-565

Proposal: The requested increase will be used to make payments to local jurisdictions for Federal lands under provisions of P.L. 94-565.

Justification and Program Description: On October 20, 1976, the President signed into law P.L. 94-565 which provides that payments may be made to local governments (counties or similar governmental units) for BLM, Forest Service, Park Service, and certain other agency administered Federal lands. Under section 2 of the Act, the formula provides a payment of either 75¢ per acre reduced under certain circumstances by existing receipt payments (such as BLM Mineral Sales and Leasing Act payments and Forest Service timber sale payments), or 10¢ per acre with no reduction for receipts, with both alternatives limited by a ceiling based on population.

Additional payments may be made, not limited by population ceilings, under section 3 of the Act for land acquired for the Redwoods National Park or for additions to the National Park System and National Forest Wilderness areas after December 31, 1970. These payments are equal to one percent of fair market value per year for five years with annual payments not to exceed the amount of real property taxes levied during the last year the land was in private ownership.

The request is necessarily an estimate because reports from states on distribution of the Federal receipt payments to approximately 1,700 local governments are not yet available. Additionally, acreages must be verified and market value versus taxes levied compared on section 3 entitlement lands. If the requested exceeds actual required payments, surplus funds will lapse; if additional funding is needed, a supplemental will be requested. It is expected that $100,000,000 will prove to be a reasonably accurate estimate.

Under the proposed language for this fund, $200,000 will be available for BLM administrative costs in determining and making payments, plus Forest Service and National Park Service administrative requirements to determine section 3 payments. This amount represents minimum estimated needs for temporary manpower and an automated system for computing payments. The work includes: verification of entitlement acreages; inputting those acreages and latest available population data from Bureau of the Census; determining fair market value of section 3 lands, which in some cases were acquired by donation; determining from county or other records the amount of real property taxes levied in the last year prior to Federal ownership of section 3 lands; and comparing one percent of fair market value with taxes levied to determine section 3 payment entitlements.

PAYMENTS IN LIEU OF TAXES

For expenses necessary to implement the Act of October 20, 1976, (Public Law 94-565) $100,000,000 of which not to exceed $200,000 shall be available for administrative expenses.

JUSTIFICATION OF NEW APPROPRIATION LANGUAGE

Public Law 94-565, approved October 20, 1976, provides for a new program of payments to counties and similar units of local government for BLM and other agency entitlement lands. The Act authorizes appropriations for this purpose. The proposed language for this new appropriation is based on a rounded estimate of payment requirements. The language also limits the amount which is available for computing and making the payments.

Payments in Lieu of Taxes

Program and Financing (in thousands of dollars)

Identification Code 14-1114-0-1-852	1976 Actual	T.Q. Actual	1977 Estimate	1978 Estimate
Program by Activities:				
10.00 Payments to local governments (costs-obligations)	-	-	-	100,000
Financing:				
40.00 Budget Authority (appropriation)	-	-	-	100,000
Relation of Obligations to Outlays:				
71.00 Obligations incurred, net	-	-	-	100,000
90.00 Outlays	-	-	-	100,000

Object Classification (in thousands of dollars)

	BUREAU OF LAND MANAGEMENT				
	Personnel Compensation:				
11.3	Positions other than permanent	-	-	-	64
11.5	Other personnel compendation	-	-	-	3
	Total personnel compensation	-	-	-	67
12.1	Personnel benefits: civilian	-	-	-	7
21.0	Travel & transportation of persons	-	-	-	4
	Rent, communication & utilities:				
23.1	Standard level user charges	-	-	-	4
23.2	Other rents, communication & utilities	-	-	-	4
25.0	Other services	-	-	-	7
26.0	Supplies & materials	-	-	-	5
31.0	Equipment	-	-	-	2
41.0	Grants, subsidies & contributions	-	-	-	99,800
	Total Obligations, Bureau of Land Management	-	-	-	99,900
	ALLOCATION ACCOUNTS				
	Personnel Compensation:				
11.3	Positions other than permanent	-	-	-	60
11.5	Other personnel compensation	-	-	-	4
	Total personnel compensation	-	-	-	64
12.1	Personnel benefits: civilian	-	-	-	7
21.0	Travel & transportation of persons	-	-	-	20
	Rent, communications & utilities:				
23.1	Standard level user charges	-	-	-	3
23.2	Other rents, communication & utilities	-	-	-	3
26.0	Supplies and materials	-	-	-	2
31.0	Equipment	-	-	-	1
	Total obligations, Allocation Account	-	-	-	100
99.0	Total Obligations	-	-	-	100,000
	Obligations are distributed as follows:				
	Interior, Bureau of Land Management	-	-	-	99,900
	Interior, National Park Service	-	-	-	50
	Agriculture, Forest Service	-	-	-	50

Personnel Summary				
Bureau of Land Management				
Full-time equivalent of other positions	--	--	--	4
Average paid employment	--	--	--	4
Average GS grade	--	--	--	9.33
Average GS salary	--	--	--	$15,982
Allocation Accounts				
Full-time equivalent of other positions	--	--	--	5
Average paid employment	--	--	--	5
Average GS grade	--	--	--	11.2
Average GS salary	--	--	--	$19,388

BUREAU OF LAND MANAGEMENT
Oregon and California Grant Lands

Estimated Appropriation, 1977		$41,250,000
Unobligated balance from prior years		11,221,153
(Included in this amount is $1,536,097 for Forest Service)		
Total available for obligation		52,471,153
Decreases:		
Construction and Acquisition.....	$12,578,000	
(Included in this amount is $2,189,000 for Forest Service)		
Maintenance.....	8,792,000	
Renewable Resource Development, Protection, and Management.....	22,630,000	
(Included in this amount is $368,000 for Forest Service)		44,000,000
Subtotal (Estimated unobligated balance at September 30, 1977)		8,471,153
Increases:		
Construction and Acquisition.....	12,100,000	
(Included in this amount is $7,052,353 for Forest Service)		
Maintenance.....	6,000,000	
Renewable Resource Development, Protection, and Management.....	26,900,000	
(Included in this amount is $551,744 for Forest Service)		45,000,000
Total available for obligation		53,471,153
Less: Unobligated balance from prior years		-8,471,153
Budget Estimate, 1978		$45,000,000

BUREAU OF LAND MANAGEMENT
Oregon and California Grant Lands
Analysis by Activities

Activity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
1. Construction and Acquisition								142
Appropriation	$6,239,000	$13,811,000	44	$12,100,000	44	-1,711,000	--	
Unobligated balance brought forward	3,299,000	3,608,000		4,841,000		+1,233,000		
Obligation program	6,169,000	12,578,000		8,187,000		-4,391,000		
Unobligated balance carried forward	3,369,000	4,841,000		8,754,000		+3,913,000		
2. Maintenance								148
Appropriation	3,622,000	7,639,000	152	6,000,000	97	-1,639,000	-55 1/	
Unobligated balance brought forward	1,625,000	2,823,000		1,670,000		-1,153,000		
Obligation program	4,916,000	8,792,000		5,692,000		-3,100,000		
Unobligated balance carried forward	331,000	1,670,000		1,978,000		+ 308,000		
3. Renewable Resource, Development, Protection, and Management								152
Appropriation	15,243,000	19,800,000	534	26,900,000	529	+7,100,000	- 5 1/	
Unobligated balance brought forward	3,259,000	4,790,000		1,960,000		-2,830,000		
Obligation program	17,942,000	22,630,000		26,321,000		+3,691,000		
Unobligated balance carried forward	560,000	1,960,000		2,539,000		+ 579,000		

O&C (Cont.)

Summary	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
Total Appropriation	24,104,000	41,250,000	730	45,000,000	670	+3,750,000	-60 1/	
Total unobligated balance brought forward	8,183,000	11,221,000		8,471,000		-2,750,000		
Total obligation program	29,027,000	44,000,000		40,200,000		-3,800,000		
Total unobligated balance carried forward	$4,260,000	8,471,000		13,271,000		+4,800,000		

1/ Positions to be transferred to the proposed "Working Capital Fund".

83-561 O - 77 - 10

1. Construction and Acquisition Activity, Analysis by Subactivity and Agency

Subactivity and Agency	Total Available FY 1977	Fiscal Year 1978 Estimated Total Available	Fiscal Year 1978 Unobligated Balance from 1977	Fiscal Year 1978 Budget Estimate	Total Available 1978 Compared to 1977	Obligation Program FY 1978
(A) Buildings						
1) BLM	6,000,000	1,500,000	- 500,000	1,000,000	-4,500,000	50,000
2) Forest Service	--	--	--	--	--	--
Subtotal, Buildings	6,000,000	1,500,000	- 500,000	1,000,000	-4,500,000	50,000
(B) Recreation Facilities						
1) BLM	1,812,000	2,808,000	- 808,000	2,000,000	996,000	1,067,000
2) Forest Service	745,000	674,000	- 474,000	200,000	- 71,000	275,000
Subtotal, Recreation Facil.	2,557,000	3,482,000	-1,282,000	2,200,000	925,000	1,342,000
(C) Access Roads						
1) BLM	4,566,000	5,081,000	- 681,000	4,400,000	515,000	3,995,000
2) Forest Service	4,296,000	6,378,000	-2,378,000	4,000,000	2,082,000	2,300,000
Subtotal, Access Roads	8,862,000	11,459,000	-3,059,000	8,400,000	2,597,000	6,295,000
(D) Acquisition						
1) BLM	--	500,000	--	500,000	500,000	500,000
2) Forest Service	--	--	--	--	--	--
Subtotal, Acquisition	--	500,000	--	500,000	500,000	500,000
Total	17,419,000	16,941,000	-4,841,000	12,100,000	- 478,000	8,187,000

2. Maintenance (ALL BLM) - Analysis by Subactivity

	Total Available FY 1977	Fiscal Year 1978			Total Available 1978 Compared to 1977	Obligation Program FY 1978
		Estimated Total Available	Unobligated Balance From 1977	Budget Estimate		
(a) Buildings	$ 180,000	$ 180,000	$ -	$ 180,000	$ -	$ 180,000
(b) Access Roads	8,809,000	5,852,000	-1,032,000	4,820,000	-2,957,000	4,577,000
(c) Recreation facilities	1,473,000	1,638,000	-638,000	1,000,000	+165,000	935,000
Total	$10,462,000	$7,670,000	$-1,670,000	$6,000,000	$-2,792,000	$5,692,000

3. Renewable Resource Development, Protection and Management-Analysis by Subactivity and Agency

Subactivity and Agency	Total Available FY 1977	Fiscal Year 1978			Total Available 1978 Compared to 1977	Obligation Program FY 1978
		Estimated Total Available	Unobligated Balance from 1977	Budget Estimate		
(A) Forest Management						
1) BLM	$14,024,000	$15,097,000	- $997,000	$14,100,000	$+1,073,000	$14,207,000
(B) Forest Development						
1) BLM	7,886,000	11,029,000	- 29,000	11,000,000	+3,143,000	10,311,000
2) Forest Service	620,000	552,000	- 252,000	300,000	- 68,000	375,000
Subtotal	8,506,000	11,581,000	- 281,000	11,300,000	+3,075,000	10,686,000
(C) Forest Protection						
1) BLM	2,060,000	2,182,000	- 682,000	1,500,000	+ 122,000	1,428,000
Total	$24,590,000	$28,860,000	$-1,960,000	$26,900,000	$+4,270,000	$26,321,000

1. Construction and Acquisition: FY 1977, BA $13,811,000; FY 1978 BA $12,100,000; decrease of $1,711,000. On an obligation basis: FY 1977, $12,578,000; FY 1978 $8,187,000; a decrease of $4,391,000. The FY 1978 obligations consist of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
A. Building Construction				
-$5,450,000	-0-	$ 50,000	-0-	Supervision of Medford Office building construction contract to be awarded in FY 1977.
B. Recreation Construction				
+ 66,550	-0-	1,342,000	11	To renovate recreation facilities and plan, survey, and design new sites.
C. Road Construction				
+ 492,450	-0-	6,295,000	20	To construct roads in support of timber sales.
D. Acquisition				
+ 500,000	-0-	500,000	13	To acquire land or interests therein as provided in the Federal Land Policy and Management Act of 1976 (Section 206) for securing access to O&C timber areas.
E. Space Costs				
(+5,000)		(105,000)		GSA space costs included above.
-$4,391,000	-0-	$8,187,000	44	

PROGRAM SYNOPSIS

Approximately 400 miles of road will be constructed to provide access for the removal of timber and for the long-term management of timber and related forest management resources such as wildlife and recreation. Twenty-four miles of these roads are proposed for construction separate from the timber sale contract because of unusual costs and/or special contract requirements. Over 60 recreation sites will be operated and administered by the Bureau. During FY 1978 several of these sites will be renovated at a cost of $800,000 to comply with State Health and Water Quality Standards. Also included in the program is the acquisition of land for road maintenance sites within the Eugene and Coos Bay Districts and the purchase of easements necessary for timber stand access.

MAJOR PROGRAM CHANGES

A. Building Construction -$5,450,000; Total $50,000
-0- Positions; Total -0- Positions

Proposal. The planned program reduction reflects obligation of a major planned project, a new District Office building at Medford, Oregon, in FY 1977. The amount planned for FY 1978 is $50,000 for ongoing supervision of the Medford project.

PROGRAM DESCRIPTION

A. Building Construction -$5,450,000; Total $50,000
-0- Positions; Total -0- Positions

This program provides for construction of buildings required for administration of the Oregon and California Grant Lands program. No new starts are planned for Fiscal Year 1978.

MAJOR PROGRAM CHANGES

B. Recreation Construction +$66,550; Total $1,342,000
-0- Positions: Total 11 Positions

Proposal. It is proposed to increase the recreation construction program to accommodate renovation of three recreation facilities and development of potable water systems to meet State water quality standards. Increased funding will also permit construction of an entrance station at a fourth site and several other existing facilities will have their sanitary systems upgraded.

The following are the planned BLM construction projects for Fiscal Year 1978:

Project Name	Project	Estimated Cost
Loon Lake	Renovation	$400,000
Clay Creek	Renovation	180,000
Whitaker Creek	Renovation	100,000
Fishermans Bend	Entrance Station	20,000
Roseburg District sanitary facilities (campgrounds)	4 Vault Toilets	100,000
		$800,000

Justification. Since construction of the Loon Lake, Clay Creek, and Whitaker Creek campgrounds, State and Federal standards for potable water sources and sewage disposal systems have been developed which dictate that new water and sewer systems be installed at these recreation sites. These required improvements include provisions for disposal of waste from self-contained trailers. Existing sanitary facilities at four campgrounds in the Roseburg District do not meet health standards and require replacement with vault toilets.

PROGRAM DESCRIPTION

C. Road Construction + 492,450; Total $6,295,000
-0- Positions; Total 20 Positions

The objective of the road construction program is to provide for survey and design, and road construction needs in support of management for western Oregon's timber program.

Road systems must be planned sufficiently ahead of actual sales to provide access to undeveloped areas of mature, overmature, decadent, and scattered salvage timber stands to insure an orderly, well-balanced schedule of timber harvest.

Access road construction financed by Oregon and California Grant Lands funds supplements the 300 to 500 or more miles per year of roads constructed under timber sale contracts. This construction program provides access for timber harvest and salvage, and multiple use activities in areas where the road construction is not appropriately included in the timber sale.

Although 94% of road mileage in western Oregon is built with timber sales, the 6% constructed with O&C funds are a critical part of the total permanent transportation network needed to support the harvest of approximately 1.172 billion board feet of timber annually.

FY 1978 access road program features include: access road planning, reconnaissance, survey, design, and construction of roads, bridges and drainage structures; road surfacing; production of crushed aggregate; construction contract engineering; and an allowance for modification of ongoing contracts. Following is a summary of the total FY 1978 access road construction program.

Program	($000's)
BLM	
Planning and Reconnaissance	$ 600
Subtotal	600
FHWA	
Roads	630
Bridges	315
Aggregate Production	1,500
Survey and Design	300
Construction Engineering and Modification	650
Subtotal	3,395
Forest Service Roads	2,300
Total	$6,295

Increased aggregate production is based on 300,000 cubic yards at $5.00 per yard equalling $1,500,000.

Justification. Constructing access roads is an important component of the declared allowable cut plan. The funding increase is needed for total construction of 24 miles of access roads to commercial forest lands. These roads are essential for transporting logs from the forest to the utilization center and for the continued management of the timber and related forest resources; continued harvests of 1.172 billion board feet annually is predicated on intensively managing the timber resource. Roads constructed with these funds are usually: (1) difficult to construct (heavy rock excavation, etc.); (2) long; or (3) of high standard. Roads of this nature are normally difficult to construct under terms of timber sale contracts because of cost and special requirements that could limit the number of prospective bidders at a sale and/or would require excessive volumes of timber in a single sale to finance them.

Production of aggregate for road construction and maintenance is essential to assure adequate supplies of high quality material. Increased production is related to additional construction and maintenance needs and to restore stockpiles which were depleted during FY 1976 when constrained obligation levels due to low receipts forced aggregate production capability to be directed to management practices and timber sales.

LOGGING ROADS PROVIDE ACCESS TO REMOTE TIMBER AREAS TO MEET INCREASING DEMAND FOR FOREST PRODUCTS

PROGRAM DESCRIPTION

B. Recreation Construction +$66,550; Total $1,342,000
-0- Positions; Total 11 Positions

Many previously remote areas with high recreational values have been opened as a result of BLM's overall timber management program. Increasing use of these areas by the public creates fire and pollution hazards which endanger both existing resources and the public. Recreation facilities serve to channel use into more appropriate areas thereby reducing overall risk. They also help satisfy the growing demand for outdoor recreation which has increased on Bureau administered lands by over 25% in the past 5 years. The program provides for environmental studies, survey and design, recreation inventory and coordination, construction and renovation of recreation facilities, and planning for future recreational demands in western Oregon.

Summary	$000
Projects	$ 800
Survey and Design, and Administration	267
BLM Subtotal	1,067
USFS	275
Total	$1,342

MAJOR PROGRAM CHANGES

C. Road Construction +$492,450; Total $6,295,000
-0- Positions; Total 20 Positions

Proposal. Twenty-four miles of road are proposed for construction along with four major bridge and culvert projects. Production of 300,000 cubic yards of rock aggregate for surfacing and maintenance is also included in the proposal. The following roads and drainage structures comprise the construction program.

- Road Construction -

Project Name	Miles	Project	Estimated Cost
Nehalem	12.0	Grading	$ 200,000
Soda Mountain	6.0	Surfacing	130,000
Sagebeard	6.0	Grading and Surfacing	300,000
	24.0		630,000
Total BLM Road Construction			$ 630,000
Forest Service O&C Construction Program			2,300,000
Total Estimated Costs			$2,930,000

- Bridge Construction -

Project Name	Unit	Project	Estimated Cost
Cobble Creek	1	Bridge	$ 90,000
S. Fk. Lobster Creek	1	Bridge	85,000
Shively-Poole Creek	1	Bridge	100,000
Nine-mile Crossing	1	Culvert Replacements	40,000
			$ 315,000

MAJOR PROGRAM CHANGES

D. Acquisition — No Changes

PROGRAM DESCRIPTION

D. Acquisition — Total $500,000
Total 13 Postions

The acquisition program is designed to acquire access across private lands as needed in support of western Oregon timber management programs, and to purchase sites for needed facilities to support the O&C program.

The fiscal year 1978 program includes:

Item	Estimated Cost
Maintenance Sites (2)	$50,000
Easement Acquisitions	250,000
Survey and Design	200,000
	$500,000

Acquisition of land for road maintenance sites within the Eugene and Coos Bay Districts is necessary to meet BLM resource management responsibilities. The proposed maintenance site in the Eugene District (Springfield) will replace an existing one at Shotgun Creek. The need for replacement stems from the fact that the existing site is no longer centrally located within the Districts operations and this has caused it to become isolated from supply and repair facilities; it has also been the object of indiscriminate vandalism.

The Coos Bay District site replacement is needed to replace the existing one at Bridge, Oregon, since the landowner intends to use the land for other purposes and not renew the existing lease.

Acquisition of access to valuable O&C timber lands through easement purchases is needed to insure orderly, well-balanced timber harvests.

E. Space

Public Law 92-313, Public Buildings Amendments of 1972, requires that effective July 1, 1974, agencies be charged for space and related services provided by the General Services Administration (GSA) at approximate commercial equivalent rates. Total space costs included in the Construction and Acquisition activity are $105,000, an increase of $5,000 over fiscal year 1977.

2. Maintenance: FY 1977, BA $7,639,000; FY 1978, BA $6,000,000; decrease of $1,639,000; on an obligation basis: FY 1977, $8,792,000; FY 1978, $5,692,000; a decrease of $3,100,000.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
A. Building Maingenance:				
		180,000	6	To establish maintenance of building facilities lo located within O&C land boundaries.
B. Recreation Maintenance:				
+100,000	-5 1/	935,000	31	Provide maintenance for existing recreation fac facilities.
C. Road Maintenance:				
-$3,200,000	-50	4,577,000	60	Reduction of one-time payment to FHWA for undepreciated equipment value.
D. (+3,000)	____	(49,000)	____	GSA space costs.
-$3,100,000	-55	$5,692,000	97	

1/ Positions to be transferred to the proposed working capital fund and to establish building maintenance for O&C facilities.

PROGRAM SYNOPSIS

Office buildings, warehouses, and other related facilities associated with the O&C programs are maintained so that they retain their value and utility for program performance and for the benefit and safety of the using public and employees.

The Bureau will maintain over 8,500 miles of forest access road in fiscal year 1978. These roads must be kept in a safe, useable condition to insure an even flow of timber to local mills and to provide access for other forest resources such as the 60 forest recreation sites developed through the O&C recreation program.

Reduced funding for road maintenance results from a one-time FY 1977 payment to reimburse the Federal Highway Administration (FHWA) for undepreciated equipment book values as a part of the transfer of maintenance responsibilities from FHWA to the BLM. Additional recreation maintenance funding will also be used to maintain existing facilities, including one scheduled for completion in FY 1977.

PROGRAM CHANGES

A. Building Maintenance — No Changes

PROGRAM DESCRIPTION

A. Building Maintenance — Total;$180.000
Total; 6 position

BLM maintains 52 buildings (412,000 square feet) which includes office buildings, warehouses, shops, storage buildings and other related facilities. Much of the major work is accomplished by private contractors with BLM performing only maintenance that is not feasible to contract. The objective of the building maintenance

program is to protect the investment of the facilities, to provide safe efficient working conditions for BLM employees, and to ensure the safety of the visiting public.

PROGRAM CHANGES

B. Road Maintenance -$3,200.000.,total $4,577,000
-50 positions, total 60 positions

Proposal: It is proposed to decrease obligations by $3,200,000 which was used in fical year 1977 for a one-time payment to Federal Highway Administration for undepreciated equipment book values. These costs accrued to BLM as a result of transferring the forest access road maintenance program in fical year 1977 from FHWA to BLM.

Justification: The $3,200,000 added to the fiscal year 1977 program for payment is no longer needed.

MAINTENANCE OF CRITICAL ROADS AND BRIDGES INSURES A STEADY FLOW OF FOREST PRODUCTS

PROGRAM DESCRIPTION

B. Road Maintenance: -$3,200,000; Total $4,577,000
-50 positions; Total 60 postions

The Bureau of Land Management currently has maintenance responsibilities for approximately 8,500 miles of forest access roads in western Oregon. This responsibility increases by approximately 400 miles annually and upon full development of the forest resources, the Bureau will be maintaining over 16,000 miles of roads in western Oregon. These roads must be kept in useable, safe condition to insure and even flow of longs to the lumber industry. This is particularly applicable to recently constructed roads which may deteriorate rapidly during the rainy season if not properly maintained.

Use of the O&C road system continues to increase each year. Roads which are allowed to fall into a poor state of repair pose serious safety problems because the roads are increasingly used by visitors who are unfamiliar with local conditions. Also, inadequately maintained roads have an environmental impact far beyond the immediate land they occupy. Erosions, caused by poor drainage or improper grades, can influence water quality for many mines downstream. Poorly maintained roads also result in heavy rutting, landslides and other degradations of outdoor surroundings. The road maintenance program includes preventive and corrective maintenance to alleviate these problems, reduce the long-run cost of protecting the investment in roads, and make possible more efficient land and resource management through improved access.

PROGRAM CHANGES

C. Recreation Maintenance: $100,000; total $935,000
-5 positions; total 31 positions

Proposal: Increase the level of maintenance for the newly constructed Shotgun recreation site and improve regular maintenance schedules on other recreation facilities.

Justification: The Bureau administers approximately 60 developed recreation sites in western Oregon. Over the past 5 years, recreation use of these sites has increased by 25 percent. This increased use along with a corresponding increase in vandalism, increased cost of supplies and materials, and the natural aging of existing facilities requires a higher level of maintenance if they are to provide safe, healthful, outdoor enjoyment.

PROGRAM DESCRIPTION

C. Recreation Maintenance: +$100,000; Total $935,000
-5 position; Total 31 positions

Many of the O&C areas are near population centers and are receiving more recreation use every year. A trend that is expected to continue throughout the 1970's. Increasing demand comes largely from metropolitan areas of California and other surrounding states as well as additional pressure from State residents.

This program provides services such as disposing of garbage, servicing sanitation facilities, keeping drinking water safe, and repairing and maintaining facilities on 60 developed sites in western Oregon.

D. Space:

Public Law 92-313, Public Buildings Amendments of 1972, requires that effective July 1, 1974, agencies be charged for space and related services provided by the General Services Administration (GSA) at approximate commerical equivalent rates. Total space costs included in the Maintenance activity are $49,000, an increase of $3,000 over fiscal year 1977.

3. Renewable Resource Development, Protection and Management: FY 1977 BA $19,800,000; FY 1978 BA $26,900,000; an increase of $7,100,000. On an obligation basis FY 1977, $22,630,000; FY 1978 $26,320,000; an increase of $3,690,000. The obligation increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
A. Forest Management				
+$1,180,000	-0-	$14,207,000	418	To provide "long-term" (5-year) timber sale plans and to insure offering the full allowable cut for western Oregon.
B. Forest Development				
+ 2,460,000	-5 a/	10,686,000	101	To increase stand and site improvement work, reduce reforestation backlog and expand seed orchard capabilities.
C. Forest Protection				
+ 50,000	-0-	1,428,000	10	To pay for increased protection facilities and increased level of hazard reduction.
D. Space Cost				
(+ 68,000)		(1,034,000)		GSA space costs included above.
+$3,690,000	-5	$26,320,000	529	

a/ Positions to be transferred to the proposed Working Capital Fund.

PROGRAM SYNOPSIS

The forest management increase of $1,180,000 will be used for advance timber sale planning, for sale layout, cruise, appraisal and contract administration in support of the annual timber sale programs. Insufficient funding in this activity is affecting ability to maintain the established allowable cut.

Forest development involves survey, planting, stand and site improvement/preparation work on over 300,000 acres. These practices along with implementing a genetic tree improvement program are essential if the Bureau is to maintain the allowable cut of 1.172 billion board feet annually. Proposed FY 1978 increases of $2,461,000 will be directed toward reducing a 40,000 acre reforestation backlog, increasing the level of stand and site improvement work, and permitting expansion of the 2nd generation genetic tree improvement program.

The Bureau of Land Management contracts with the State of Oregon for fire protection on approximately 2.4 million acres of O&C and public domain lands. Program increase of $50,000 will be used in support of the Bureau's effort to contribute to presuppression and control measures through the construction of firebreaks, heliponds, and other water retention facilities used in fire suppression.

MAJOR PROGRAM CHANGES

A. Forest Management

+$1,180,000: Total $14,207,000
+0 Positions: Total 418 Positions

Proposal. The proposed increase will be used to support 82 temporary man years for advance timber sale planning, and in cruising, appraising, sale layout, and contract administration. Included is $160,000 that will be for improving the map base upon which specific forest management and development plans must be based.

Justification. Approximately 1.9 million acres of the 2.4 million acres of Bureau administered lands, located in 18 western Oregon counties, are classified as available for timber production. These lands represent over 50 percent of the 3.5 million acres currently in the Bureau's total timber production base and are some of the most highly productive and intensively managed lands in the nation. The O&C Act specifies that the timber on these lands be sold, cut, and removed in conformity with the principle of sustained yield for: (1) providing a permanent source of timber supply; (2) protecting watersheds; (3) regulating stream flows; (4) contributing to the economic stability of local communities and industries; and (5) providing recreation facilities.

Currently, the annual production on a sustained yield basis from these lands is 1.172 billion board feet or 92% of the Bureau's total timber production and nearly 20% of the total wood harvested in western Oregon. The annual production supports 13,500 primary jobs and 20,000 secondary jobs (retail trade, service, etc.). These jobs represent 8 percent of the total employment in the region, but range as high as 35 percent in some local areas.

The current allowable cut for western Oregon was formally declared by Secretary of Interior in 1971. By doing so, he adopted an allowable cut plan that was specific as to the inputs of manpower and funds necessary to carry it out. It was based on intensive management practices, which must be applied.

Since 1971, the requirements for carrying out resource production programs have changed. NEPA requirements have become more involved; benefits to be derived by applying management framework plan concepts to lands that formerly had single use orientation became evident; cultural resource protection and management has taken on significance through legislative and executive order actions; less efficient partial cutting is being used more and more in lieu of clear cutting; and we deal with a broader range of publics who expect a degree of sophistication that previously did not exist in resource management and decisionmaking.

Timber sale planning - The Bureau strives to prepare and maintain 5-year timber sale plans which insure necessary lead-time for orderly development of the forest resources. These plans, which are derived from the Bureau planning process, are ultimately used in developing annual sale plans which are the foundation for the allowable cut of 1.172 billion board feet. In recent years, however, added Bureau responsibilities (i.e. comprehensive land use planning, environmental assessment, cultural resource inventory and protection, etc.) have not been accompanied by increased capability. To absorb these priority and mandatory work requirements, the Bureau has diverted resources from long-range timber sale planning. Consequently, lead-time for timber sale planning is 3-4 years behind. Often timber sale plans are prepared only for the current year sale plans--a "hand-to-mouth" operation which does not provide sufficient latitude for proper review and coordination with other programs or state and local governments. Costly revisions and delays in sale offerings result. This situation will continue and likely grow worse unless additional manpower and funding is provided.

Timber production - Additional funding and manpower is necessary to maintain the allowable cut of 1.172 billion board feet in western Oregon. Offering this volume requires preparation of 460 advertised timber sales and 850 small negotiated sales. Preparing this many timber sales requires updating the framework planning program, obtaining clearance for cultural and archeological values, providing adequate environmental assessment, and considering wildlife values. Each of the five O&C Districts require additional expertise to accomplish this work.

Cost Factors. Eighty-two temporary positions at an average cost of $11,634, $954,000; travel, per diem, and transportation of equipment and supplies, $130,000; and space costs, utilities, printing, supplies and equipment. $96,000.

LOGGER HARVESTING
OLD GROWTH TIMBER

PROGRAM DESCRIPTION

A. Forest Management +$1,180,000; Total $14,207,000
Total 418 Positions

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 the total allowable cut (1.172 billion board feet). Management practices include: harvesting residual stands, commercial thinnings, changing from clear cutting areas to select cutting, and smoke management. To offer 1.172 billion board feet of timber requires preparing 460 advertised and 850 small negotiated timber sales and cruising and appraising the offered volume.

This activity will also provide for a number of functions on the O&C timber lands of western Oregon which are not directly related to the production of timber. These other efforts include such resource activities as livestock management, wildlife management, soil and water management, recreation management, etc. all of which are an integral part of the total management of the O&C forest lands. It is BLM's plan to restructure the Renewable Resource Development, Protection and Management activity in the O&C Grant Land Fund in the same manner that the activity by the same title appears in the Management of Lands and Resources Appropriation. This will appear in subsequent fiscal year budgets as cost data for these other management functions is determined.

MAJOR PROGRAM CHANGES

B. Forest Development: +$2,460,000; total $10,686,000
-5 positions; total 101 positions

Proposal: The increase of $2,460,000 will be used for intensive forest management practices including reforestation, site preparation, and site improvement; for expanding seed production capacity at the Horning and Sprague Seed Orchards for intesifying work in the genetics improvement program; and for increasing stocking surveys on cut over lands.

Specific activities include:

Item	Added Units	Estimated Cost
Precommercial and commercial thinning	2,500 acres	$ 165,000
Seedling purchase	1.2 million	70,000
Reforestation (backlog)	10,000 acres	840,000
Site treatment	5,200 acres	580,000
Sprague Seed Orchard land	160 acres	200,000
Horning Seed Orchard land	80 acres	100,000
		$1,955,000

In addition, temporary manpower ($36,000) will be used for tree improvement and assist in reforestation surveys. New equipment including large tree transplanters and specialized nursery equipment is also required to support the genetics improvement program ($469,000).

Justification: The allowable cut of 1.172 billion board feet annually is predicated on the assumption that intensive forest management practices (i.e. commercial and precommercial thinning, reforestation, tree improvement, etc.) will be employed throughout the plan period. Commerical and precommercial thinning, for example, will be used on approximately 115,000 acres during the 10-year period, or an average of 11,500 acres annually. Due to insufficient manpower

and funding in previous years, this program is currently behind schedule by 2,500 acres which if not corrected would call for a reduction in the allowable cut. Similarly, site improvement work (i.e. release spraying, scarification, slash treatment, etc.) are also intensive forest management practices which have direct bearing on the level of the allowable cut. Any lapse in treating the number of acres specified in the allowable cut plan will require a reduction in the cut if sustained-yield principles are to be adhered to. Currently, the Bureau has a reforestation backlog in excess of 40,000 acres. Additional funding will permit the the purchase and planting of 1.2 million seedlings on an additional 10,000 acres in fiscal year 1978. The Bureau's goal of eliminating the entire reforestation backlog can readily be achieved by 1980, even allowing for fome failures in current reforestation efforts.

Cost Factors. Twenty-two temporary man years at $12,681/year, $279,000;travel, per diem, and transportation, $28,000; space, supplies, materials, and contractual services for equipment maintenance, $43,000; purchase of land, $300,000; contracts, $1,010,000.

NURSERY USED TO PRODUCE SEED FOR GROWING SUPERIOR QUALITY TREES

PROGRAM DESCRIPTION

B. Forest Development +$2,460,000; Total $10,685,400
+18 Positions; Total 124 Positions

This program is to insure maximum timber production which is reflected in the level of the annual allowable cut. Precommercial thinning, site improvement, stand conversion, reforestation, genetic improvement, and mortality salvage operations make up the Bureau's western Oregon intensified forest management program.

Since the allowable cut plan was approved in 1971, land uses have changed. Base lands that were previously recognized as timber lands have and are now being reclassified for other uses such as buffer strips for wild and scenic and other rivers, wildlife areas, and watershed protection. The resultant diminished land base must be offset by increased growth to maintain the allowable cut level.

In all, an 11 percent increase in timber productivity from a first generation tree improvement program was included in the approved 1971 cut calculation. It is basically on track and adding to volume as planned.

However, it cannot compensate for the reduced land base. Two alternatives for increasing production exist: (1) fertilization, and (2) a second generation tree improvement program. The first has too many uncertainties in the form of worldwide fertilizer demand and price instability to be advanced in large scale at this time. The second alternative is viable, but requires additional manpower, seed production capacity, and more intensive efforts to acquire and develop faster growing trees.

Whereas the first generation program relies on wind pollination to effectuate improvement from superior stock, the second generation program will build on the qualities of improved stock by controlled fertilization. An additional 11 percent increase in volume, which may serve to offset losses from changing land use, can be realized. This increase in volume is needed to maintain the present allowable cut of 1.172 billion board feet.

These described proposals in forest development are essential to a modern forest management program. A wide variety of Federal, state, and private analyses demonstrate the cost effectiveness of forest improvement investments. At the proposed level, BLM will still spend only about one-half as much per acre for development as the more progressive private timber managers.

Summary of program outputs:

	FY 1977	FY 1978
Acres of Surveys.....	230,000 acres	230,000 acres
Planting.....	30,000 acres	40,000 acres
Precommercial Thinning.....	7,600 acres	10,100 acres
Stand Release & Site Preparation.....	51,500 acres	51,500 acres
Genetic Tree Improvement...	2nd generation program	2nd generation program

The Forest Service's O&C land forest development program of $375,000 is included in the obligation program total for this subactivity.

MAJOR PROGRAM CHANGES

C. Forest Protection — +$50,000; Total $1,428,000
-0- Positions; Total 10 Positions

Proposal. The requested increase will be used for the construction of heliponds and other water development facilities used in the control and suppression of wildfires.

Justification. There are 2.4 million acres of Bureau-administered lands in western Oregon requiring fire protection. Although fire protection for these lands is contracted to the State of Oregon, the Bureau supports the protection effort by providing firebreaks, heliponds, snag felling, etc., which are essential to the presuppression of fire operations. Developed water facilities provide ponds and access to streams to fill pumpers. They are also beneficial to wildlife.

Cost Factors. Contracts $50,000.

PROGRAM DESCRIPTION

C. Forest Protection — +$50,000; Total $1,428,000
-0- Positions; Total 10 Positions

The Bureau of Land Management contracts for fire protection on approximately 2.4 million acres of O&C and public domain forest lands in western Oregon. These contracts are negotiated with the State of Oregon, on a rate per acre which reflects the agency's cost for fire suppression and fire prevention in past years. The Bureau will continue to contribute to presuppression and control measures through the removal of snags, slash disposal, firebreak construction, fire law enforcement and fire investigations on Bureau administered lands.

Space

Public Law 92-313, Public Buildings Amendments of 1972, requires that effective July 1, 1974, agencies be charged for space and related services provided by the General Services Administration (GSA) at approximate commercial equivalent rates. Total space costs included within the Surface Resource Use and Protection activity are $1,034,000, an increase of $68,000 over Fiscal Year 1977.

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 [rights-of-way and of existing] *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 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). *(16 U.S.C. 583, 594; 43 U.S.C. 1181a-b; 1181d-f; 90 Stat. 2743-2794; Department of the Interior and Related Agencies Appropriation Act, 1977.)*

JUSTIFICATION OF CHANGES IN APPROPRIATION
LANGUAGE AND ACTIVITY CLASSIFICATIONS

The proposed change in the language for this appropriation reflects the broader acquisition authority provided in section 205 of the Federal Land Policy and Management Act of 1976. Under the new Act, acquistions are authorized for other purposes in addition to the previous authority to acquire rights-of-way and existing connecting roads. Under the new authority, two needed administrative sites for the road maintenance function will be acquired in fiscal year 1978. These acquisitions are justified in the new "Acquisition" subactivity in the retitled "Construction and Acquisition" activity.

Also, in the budget the old "Forest Development, Protection, and Management" activity is retitled "Renewable Resource Development, Protection, and Management". This proposed change reflects the fact that the fund also finances management on nontimber resources, primarily wildlife and recreation management functions on the O. and C. lands. The new activity title is also consistent with the activity title for similar functions in "Management of Lands and Resources".

OREGON AND CALIFORNIA GRANT LANDS

Program and Financing (in thousands of dollars)

Identification Code 14-5136-0-2-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Program by Activities:				
	1. Construction & acquisition	9,080	1,774	12,578	8,188
	2. Maintenance	4,740	2,387	8,792	5,692
	3. Renewable resource development, protection, & management	18,449	5,704	22,630	26,320
	Total program costs, funded	32,269	9,865	44,000	40,200
	Change in selected resources (undelivered orders)	-3,242	2,500	--	--
10.0	Total obligations	29,027	12,365	44,000	40,200
	Financing:				
21.00	Unobligated balance available, start of period	-8,183	-4,260	-11,221	-8,471
24.00	Unobligated balance available, end of period	4,260	11,221	8,471	13,271
40.00	Budget authority (appropriation) (indefinate, special fund)	25,104	19,326	41,250	45,000
	Relation of obligations to outlays:				
71.00	Obligations incurred, net	29,027	12,365	44,000	40,200
72.00	Obligated balance, start of period	11,724	9,816	11,681	26,781
74.00	Obligated balance, end of period	-9,816	-11,681	-26,781	-25,981
90.00	Outlays	30,935	10,500	28,900	41,000

OREGON AND CALIFORNIA GRANT LANDS

Object Classification (in thousands of dollars)

Identification Code 14-5136-0-2-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	BUREAU OF LAND MANAGEMENT				
	Personnel compensation:				
11.1	Permanent positions	10,047	3,385	12,008	11,240
11.3	Positions other than permanent	1,535	601	2,235	2,862
11.5	Other personnel compensation	173	95	206	206
	Total personnel compensation	11,755	4,081	14,449	14,308
12.1	Personnel benefits: Civilian	1,005	265	1,149	1,210
21.0	Travel & transportation of persons	184	64	185	205
22.0	Transportation of things	735	240	785	785
	Rent, communications, & utilities:				
23.1	Standard level user charges	888	192	1,112	1,188
23.2	Other rent, communication, & utilities	55	37	150	160
24.0	Printing & reproduction	4	2	15	15
25.0	Other services	2,572	402	5,796	6,365
26.0	Supplies & materials	79	315	98	103
31.0	Equipment	156	188	3,906	306
32.0	Lands and structures	2,541	2,050	10,563	8,908
42.0	Insurance claims & indemnities	4	--	--	--
	Total obligations, Bureau of Land Management	19,978	7,836	38,208	33,553
	ALLOCATION ACCOUNTS				
	Personnel compensation:				
11.1	Permanent positions	1,112	414	373	391
11.3	Positions other than permanent	237	88	100	105
11.5	Other personnel compensation	117	43	55	56
	Total personnel compensation	1,466	545	528	552
12.1	Personnel benefits: Civilian	103	105	56	57
21.0	Travel & transportation of persons	231	95	74	75
22.0	Transportation of things	200	115	63	65
23.2	Rent, communications & utilities: Other rent, communications, & utilities	52	15	15	15
25.0	Other services	2,039	1,512	646	830
26.0	Supplies & materials	34	20	11	11
31.0	Equipment	16	--	17	17
32.0	Lands and structures	4,908	2,122	4,382	5,025
	Total allocation accounts	9,049	4,529	5,792	6,647
99.0	Total obligations	29,027	12,365	44,000	40,200
	Obligations are distributed as follows:				
	Interior, Bureau of Land Management	19,978	7,836	38,208	33,553
	Agriculture, Forest Service	1,845	395	2,557	2,950
	Transportation, Federal Highway, Administration	7,204	4,134	3,235	3,697

OREGON AND CALIFORNIA GRANT LANDS
Personnel Summary

Identification Code 14-5136-0-2-302	1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
BUREAU OF LAND MANAGEMENT				
Total number of permanent positions	651	--	730	670
Full-time equivalent of other positions	172	--	272	326
Average paid employment	717	--	961	960
Average GS grade	9.39	--	9.33	9.33
Average GS salary	$15,138	--	$15,747	$15,982
ALLOCATION ACCOUNTS				
Total number of permanent positions	95	--	25	25
Full-time equivalent of other positions	19	--	19	19
Average paid employment	95	--	32	32
Average GS grade	8.53	--	8.53	8.53
Average GS salary	$15,760	--	$16,941	$16,912
Average salary of ungraded positions	$12,000	--	$12,199	$12,199

BUREAU OF LAND MANAGEMENT

RANGE IMPROVEMENTS

Appropriation, 1977		$7,370,000
Unobligated balance from prior years		1,447,000
Total available for obligation		$8,817,000
Decreases:		
Improvements to public lands	$8,277,000	
Farm Tenant Act lands	540,000	$8,817,000
Subtotal		-0-
Increases:		
Improvements to public lands	$8,235,000	
Farm Tenant Act lands	515,000	
Budget Estimate 1978		$8,750,000

BUREAU OF LAND MANAGEMENT
Range Improvements

Analysis by Activities

Activity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Est. 1978 Compared with Appropriation 1977	No. of Perm. Pos.
1. Improvements to public lands							
Appropriation	5,172,000	6,847,000		8,235,000		+1,388,000	
Unobligated balance brought forward	529,000	1,430,000		---		-1,430,000	
Obligated program	3,973,000	8,277,000		8,235,000		-42,000	
Unobligated balance carried forward	1,728,000	---		---		---	
2. Farm Tenant Act Lands							
Appropriation	263,000	523,000		515,000		-8,000	
Unobligated balance brought forward	1,000	17,000		---		-17,000	
Obligation program	210,000	540,000		515,000		-25,000	
Unobligated balance carried forward	54,000	---		---		---	
Total Appropriation	5,435,000	7,370,000	56	8,750,000	46	+1,380,000	-10[a/]
Total Unobligated brought forwarded	530,000	1,447,000		---		-1,447,000	
Total Obligation Program	4,183,000	8,817,000		8,750,000		67,000	
Total Unobligated Balance carried forward	1,782,000	---		---		---	

a/ Positions to be transferred to "Working Capital Fund".

Range Improvements. FY 1977, $7,370,000; FY 1978, $8,750,000; an increase of $1,380,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
+$1,380,000	-10 1/	$8,750,000	46	For installation and maintenance of range improvements.
+$1,380,000	-10	$8,750,000	46	Total

1/ Positions to be transferred to the "Working Capital Fund"

PROGRAM SYNOPSIS

The range improvement appropriation complements grazing program appropriations in Management of Lands and Resources. Budget authority is based on grazing receipts from the prior year. Objectives of the program are to rehabilitate public lands and to stabilize the livestock industry as prescribed by the Taylor Grazing Act of 1934 and the Federal Lands Policy and Management Act (P.L. 94-579) enacted October 21, 1976. FY 1978 efforts will emphasize maintenance of existing range improvements and construction of facilities in support of existing Allotment Management Plans (AMPs) and those new AMP's covered by Court mandated Environmental Impact Statements.

MAJOR PROGRAM CHANGES

Range Improvements +1,380,000; total $8,750,000
-10 positions; total 46 positions

Proposal. The increase of range improvement funds will be used to support maintenance of existing range improvement projects, to supplement MLR appropriations for on-the-ground improvements associated with implementation of AMP's approved in the 1977 EIS areas, and for survey, design, and installation of site specific facilities not associated with intensive management plans. Facility construction includes new or reconstructed administrative boundary fences, such as along district or jurisdictional boundaries, and modification of existing waters to mitigate impacts on wildlife.

Justification. Funding is directly dependent on the amount of receipts generated by the collection of grazing fees during the previous fiscal year, although the funds must still be appropriated by Congress. Funds are available until expended.

Fees for the grazing of livestock on lands administered by BLM have been the subject of study and controversy, both before and on a continuing basis since the Taylor Grazing Act authorized such charges in 1934. Through a series of interagency and administration actions, the fee level has reached $1.51 per Animal Unit Month (AUM) for the 1976 grazing year. The Federal Lands Policy and Management Act (P.L. 94-579) requires that the Secretaries of Interior and Agriculture jointly perform a study to determine the value of forage on the public lands and to report the results along with recommendations to implement a reasonable grazing fee schedule to Congress by October 21, 1977. The existing fee of $1.51 per AUM will remain in effect during 1977.

These increased funds will provide for the following accomplishments:

Cattleguard installation	110 ea.	@	$1,800/ea.	$198,000
Fence construction	125 mi.	@	2,200/mi.	275,000
Water developments	125 ea.	@	4,440/ea.	555,000
Fence maintenance	710 mi.	@	200/mi.	142,000
Water development maintenance	300 ea.	@	700/ea.	210,000

Cost Factors: Supplies and contractual services, and lands and structures will utilize the entire budget authority increase of $1,380,000.

PROGRAM DESCRIPTION

Range Improvement

+$1,380,000; Total $8,750,000
-10 Positions; Total 46 Positions

The objectives of the range improvement program are to fund investments necessary to implement allotment management plans, and to complement the Management of Lands and Resources appropriation for protection, maintenance and watershed treatment. Lands valuable for forage production usually are also valuable upland watersheds and important wildlife seasonal tanges or wildlife habitat areas.

In FY 1978, total planned work will include construction of 550 miles of fence, 300 water developments, 185 cattleguards, and continued maintenance of existing range improvements.

The recently enacted Federal Land Policy and Management Act (P.L. 94-579) makes fifty percent of grazing receipts available for appropriation. Half of the receipts are to be used in the district from which the receipts were derived.

Beginning in 1978, funds available under this title will be used only for maintenance and on-the-ground range rehabiliation, protection, and improvements including seeding, fence construction, weed control, water development, fish and wildlife habitat enhancement, and planning and designing such projects. All grazing environmental analysis activities will be funded from Management of Lands and Resources.

Land improvements resulting from this activity will provide additional forage for livestock, habitat for wildlife, and aid in improving watershed conditions as a result of achieving control of livestock distribution and use of the land.

RANGE IMPROVEMENTS

[For construction, purchase, and maintenance of range improvements pursuant to the provisions of sections 3 and 10 of the Act of June 28, 1934, as amended (43 U.S.C. 315), sums equal to the aggregate of all moneys received, during the current fiscal year, as range improvements fees under section 3 of said Act, 25 per centum of all moneys received, during the current fiscal year, under section 15 of said Act, and the amount designated for range improvements from grazing fees from Bankhead-Jones lands transferred to the Department of the Interior pursuant to law, to remain available until expended.] *For rehabilitation, protection, and improvement of Federal range lands pursuant to section 401 of the Federal Land Policy and Management Act of 1976 (Public Law 94-579), 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., and the amount designated for range improvements from grazing fees from Bankhead-Jones lands transferred to the Department of the Interior pursuant to law, to remain available until expended. (Department of the Interior and Related Agencies Appropriation Act, 1977).*

EXPLANATION OF CHANGE IN APPROPRIATION LANGUAGE

Section 401(b)(1) of the Federal Land Policy and Management Act provides that fifty percent of grazing fees are available for appropriation. Half the appropriated amount is to be spent within the same district, the remaining half may be utilized in any geographic area. Use of the appropriation is limited to on-the-ground rehabilitation, protection and improvement of grazing lands. The authority is being interpreted to include planning of projects and project maintenance.

Under the new language, the percentage of appropriated grazing fee receipts for lands outside organized grazing districts increases from 25 to 50 percent. The Secretary had previously designated 50 percent of the fees from inside grazing districts as the range improvement fee. This was under the prior discretionary authority replaced by section 401 of Public Law 94-579 as cited above. The proposed new appropriations language conforms to the new authorizing legislation and will result in an increase of an estimated $1,380,000 in fiscal year 1978 over the amount appropriated in fiscal year 1977, even though the fee charged range users will not be increased in calendar year 1977.

RANGE IMPROVEMENTS

Program and Financing (in thousands of dollars)

Identification Code 14-5132-0-2-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Program by activities:				
	1. Improvements to public lands	3,305	1,301	8,277	8,235
	2. Farm Tenent Act Lands	256	77	540	515
	Total program costs, funded 1/	3,561	1,378	8,817	8,750
	Change in selected resources (unpaid undelivered orders)	622	-443	--	--
10.00	Total obligations	4,183	935	8,817	8,750
	Financing				
21.00	Unobligated balance available, start of period	-530	-1,782	-1,447	--
24.00	Unobligated balance available, end of period	1,782	1,447	--	--
40.00	Budget authority (appropriation) (Indefinate, special fund)	5,435	600	7,370	8,750
	Relation of obligations to outlays:				
71.00	Obligations incurred, net	4,183	935	8,817	8,750
72.00	Obligated balance, start of period	779	1,337	1,313	2,530
74.00	Obligated balance, end of period	-1,337	-1,313	-2,530	-2,780
90.00	Outlays	3,625	959	7,600	8,500

1/ Includes capital outlays as follows: 1976, $1,000 thousand; 1977, $2,986 thousand; 1978, $2,832 thousand.

RANGE IMPROVEMENT

Object Classification (in thousands of dollars)

Identification Code 14-5132-0-2-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Personnel compensation :				
11.1	Permanent positions	923	178	980	850
11.3	Position other than permanent	693	324	800	630
11.5	Other personnel compensation	27	61	30	70
	Total personnel compensation	1,643	563	1,810	1,550
12.1	Personnel benefits: Civilian	154	48	163	140
21.0	Travel & transportation of persons	72	73	90	192
22.0	Transportation of things	213	80	566	566
23.2	Rent, communications, & utilities: Other rent, communications, & utilities	30	6	80	80
24.0	Printing & reproduction	--	4	--	--
25.0	Other services	9	10	24	380
26.0	Supplies & materials	925	10	2,750	2,660
31.0	Equipment	131	1	348	350
32.0	Lands and structures	1,006	140	2,986	2,832
99.0	Total obligations	4,183	935	8,817	8,750

Personnel Summary

Total number of permanent positions	46	--	56	46
Full-time equivalent of other positions	71	--	95	75
Average paid employment	114	--	147	119
Average GS grade	9.39	--	9.33	9.33
Average GS salary	$15,138	--	$15,747	$15,982

BUREAU OF LAND MANAGEMENT
Recreation Development and Operation of Recreation Facilities

Appropriation, 1977	$300,000
Unobligated balance from prior years	157,000
Total available for obligation	457,000
Decreases:	
Recreation Development and Operation of Recreation Facilities	300,000
Subtotal	157,000
Increases:	
Recreation Development and Operation of Recreation Facilities	300,000
Total available for obligation	457,000
Budget Estimate (Obligations) 1978	-300,000
Unobligated balance planned, September 30, 1978	157,000

83-561 O - 77 - 12

BUREAU OF LAND MANAGEMENT
Recreation Development and Operation of Recreation Facilities

Analysis by Activity

	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Est. 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
Recreation Development and Operation of Recreation Facilities								
Total Appropriation	$300,000	$300,000	6	$300,000	6	--	--	
Total Unobligated balance brought forward	81,000	157,000		157,000		--	--	
Total Obligation program	253,000	300,000		300,000		--	--	
Total Unobligated balance carried forward	128,000	157,000		157,000		--	--	

Recreation Development and Operation of Recreation Facilities: Fiscal Year 1977, $300,000; Fiscal Year 1978, $300,000; no change.

PROGRAM DESCRIPTION

Recreation Development and Operation of Recreation Facilities	FY 1978 Total, $300,000 6 Positions

The Recreation Development and Operation of Recreation Facilities appropriation is derived from recreation user fees collected pursuant to the Land and Water Conservation Fund Act of 1965, as amended. Funds will complement recreation maintenance financed in the Acquisition, Construction, and Maintenance appropriation, and a simular function in the O&C Grant Lands appropriation. It will be used to perform corrective and preventive maintenance at recreation facilities on public lands. The amount of funds available from this appropriation is indefinite; however, no significant change in receipts is expected.

CAMPERS ENJOY WELL MAINTAINED AND OPERATED CAMPGROUND FACILITIES

RECREATION DEVELOPMENT AND OPERATION OF RECREATION FACILITIES

For construction, operation, and maintenance of outdoor recreation facilities, including collection of special recreation use fees, to remain available until expended, $300,000, to be derived from the special receipt accounts established by section 1(b) of the Act of July 15, 1968 (82 Stat. 354), and section 4(e) of the Act of July 11, 1972 (86 Stat. 461): *Provided*, That not more than 40 per centum of the amount credited pursuant to section 4(e) of the Act of July 11, 1972, shall be available for the enhancement of the fee collection system established by section 4 of such Act, including the promotion and enforcement thereof. *(Department of the Interior and Related Agencies Appropriation Act, 1977.)*

RECREATION DEVELOPMENT AND OPERATION OF RECREATION FACILITIES

Program and Financing (in thousands of dollars)

Identification Code 14-5011-0-2-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Program by activities:				
	Development & operation of recreation facilities (program costs, funded)	228	88	300	300
	Change in selected resources (unpaid, undelievered orders)	25	-17	--	--
10.00	Total obligations	253	71	300	300
	Financing:				
21.00	Unobligated balance available, start of period	-81	-128	-157	-157
24.00	Unobligated balance available, end of period	128	157	157	157
40.00	Budget authority (appropriations) (Special fund)	300	100	300	300
	Relation of obligations to outlays:				
71.00	Obligations incurred, net	253	71	300	300
72.00	Obligated balance, start of period	34	61	53	53
74.00	Obligated balance, end of period	-61	-53	-53	-53
90.00	Outlays	226	79	300	300

RECREATION DEVELOPMENT AND OPERATION OF RECREATION FACILITIES

Object Classification (in thousands of dollars)

Identification Code 14-5011-0-2-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Personnel compensation:				
11.1	Permanent positions	43	7	43	43
11.3	Positions other than permanent	68	30	68	68
11.5	Other personnel compensation	8	3	8	8
	Total personnel compensation	119	40	119	119
12.1	Personnel benefits: Civilian	10	3	10	10
21.0	Travel & transportation of persons	4	3	6	6
22.0	Transportation of things	9	5	12	12
23.2	Rent, communications, & utilities: Other rent, communications, & utilities	1	--	1	1
24.0	Printing & reproduction	17	3	23	23
25.0	Other services	69	13	95	95
26.0	Supplies & materials	12	4	20	20
31.0	Equipment	5	--	7	7
32.0	Lands & structures	7	--	7	7
99.0	Total obligations	253	71	300	300

Personnel Summary

Total number of permanent positions	6	--	6	6
Full-time equivalent of other positions	7	--	7	7
Average paid employment	10	--	10	10
Average GS grade	9.39	--	9.33	9.33
Average GS salary	$15,138	--	$15,747	$15,982

BUREAU OF LAND MANAGEMENT

Service Charges, Deposits and Forfeitures

Appropriation, 1977	-0-	
Unobligated balance from prior years	-0-	
Total available for obligation	-0-	
Decreases:	-0-	
Increases:		
Rights-of-way Processing	$10,400,000	
Repair of Lands and Facilities	850,000	
Budget Estimate 1978		$11,250,000

BUREAU OF LAND MANAGEMENT
SERVICE CHARGES, DEPOSITS AND FORFEITURES
Analysis by Activities

	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared With 1977 Appropriation	No. of Perm. Pos. 1/
1. Rights-of-Way Processing							
Appropriation	---	---	---	$10,400,000	163	+$10,400,000	+163
Unobligated Balance brought forward	---	---		---		---	
Obligation program	---	---		10,400,000		+ 10,400,000	
Unobligated balance carried forward	---	---		---		---	
2. Repair of Lands and Facilities							
Appropriation	---	---	---	850,000	2	+$ 850,000	+ 2
Unobligated Balance brought forward	---	---		---		---	
Obligation program	---	---		850,000		+ 850,000	
Unobligated balance carried forward	---	---		---		---	
Total Appropriation	---	---	---	11,250,000	165	+$11,250,000	+165
Total Unobligated brought forward	---	---		---		---	
Total Obligation program	---	---		11,250,000		+ 11,250,000	
Total Unobligated carried forward	---	---		---		---	

1/ The increased 165 positions are transferred from the following appropriations; 163 positions - Management of Lands and Resources, +2 positions Permanent Appropriations.

SERVICE CHARGES, DEPOSITS AND FORFEITURES

Analysis of Activity

FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Amount Available	Increase (+) or Decrease (-)
-0-	-0-	$11,250,000	+$11,250,000

Service Charges, Deposits and Forfeitures: FY 1977, -0-; FY 1978, $11,250,000; an increase of $11,250,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
1. Rights-of-Way Processing				
(a) +$7,249,000	+130	$7,249,000	130	Energy Related Realty - reflects transfer of cost recoverable case work functions from the Management of Lands and Resources appropriation as authorized by the Federal Land Policy and Management Act (P.L. 94-579).
(b) + 3,151,000	+ 33	3,151,000	33	Alaska Pipeline-Post Construction - reflects transfer of cost recoverable post construction monitoring function from the Management of Lands and Resources appropriation as authorized by the Federal Land Policy and Management Act (P.L. 94-579).
2. Repair of Lands and Facilities				
+ 850 000	+2	850,000	2	Repair of Lands and Facilities - Transfer the repair of lands and facilities function from the Expenses, Public Land Administration Act appropriation as authorized by the Federal Land Policy and Management Act (P.L. 94-579).
+$11,250,000	+165	11,250,000	165	

PROGRAM SYNOPSIS

Rights-of-Way processing provides for the processing of cost recoverable right-of-way applications (casework). These activities include environmental analysis, environmental impact statement preparation, field examination, classification, appraisal, monitoring and surveillance of construction and post construction monitoring.

Certain permittees provide bonds or deposits to assure fulfillment of contracts. Monies received in forfeiture of such bonds or deposits are available for necessary improvement, protection and rehabilitation of damaged lands and facilities. Monies collected on Oregon and California Grant Lands are available for those lands

or facilities only and amounts in excess of the cost of doing the work are transferred to miscellaneous receipts.

MAJOR PROGRAM CHANGES

1. Rights-of-Way Processing +10,400,000; Total $10,400,000
+163 positions, Total 163

(a) Energy Related Realty (+7,249,000 and 1[illegible] positions)

Proposal. To transfer the cost recoverable energy case work functions from the Management of Lands and Resources appropriation. Monies to pay for the cost recoverable projects will be provided in advance by the applicant before the BLM initiates any work on the application.

(b) Trans-Alaska Pipeline (+3,151,000 & 33 positions)

Proposal. Construction of the pipeline is on schedule and by the third quarter of 1977 the pipeline will be capable of delivering 600,000 bpd (barrels per day) at the Valdez Terminal; by the end of calendar year 1977 the system will be capable of 1,200,000 bpd. At that time, the monitoring and surveillance of the project will change to post construction operations and maintenance. The project will continue to be cost recoverable as provided by the amended Mineral Leasing Act of 1920 and the Federal Land Policy and Management Act of 1976.

THE TRANS-ALASKA PIPELINE

Justification. Since fiscal year 1974, the demand for rights-of-way over the public lands has expanded significantly. Primarily this can be attributed to the continuing shortage of energy fuels which in turn is stimulating the development of energy minerals both on private lands and leased Federal lands.

In order to provide for the transportation and/or distribution of these energy sources, the BLM issues rights-of-way and land use authorizations covering public lands used for construction of powerlines, pipelines, rail and tram roads and other facilities.

The Federal Land Policy and Management Act (P.L. 94-579) provides authority to the Bureau of Land Management to utilize receipts collected for costs related to the issuance and monitoring of rights-of-way permits instead of relying on general fund appropriations, and depositing collections as receipts in the general fund.

In the energy right-of-way sector, a project is described as the sum of a number of activities associated with receipt and processing of a permit application, granting the permit, and finally compliance monitoring during construction and operation of the facility. The majority of projects require preliminary investigation which includes alternate site analysis; processing applications for rights-of-way and special land use permits; preparation of environmental impact statements (EIS) where required; appraisal and reappraisal of fair market value; and construction supervision to insure compliance with stiuplations, routing and other mitigating measures; and post construction compliance monitoring. Experience to date indicates the FY 1978 workload cost will be spread among the following categories:

	$000
Preliminary Analysis	$1,087
Environmental Analysis and Impact Statement Preparation	4,712
Permit Issuance	725
Compliance	3,876
	$10,400

This program is highly manpower intensive as each project requires special types of expertise for environmental analysis and impact statement preparation. However, beginning in 1977, BLM has intensified the use of contractors for both data gathering and analysis activities on the larger projects to minimize the number of new personnel required. Smaller projects generally cannot be accomplished efficiently by contract as the time required for preparation of requests for proposals and supervising contract activities becomes disproportionate to the total effort required.

This program depends entirely on the number and types of rights-of-way applications that are ongoing or contemplated and the program is dynamic, changing from day-to-day. Currently known and identified projects which will require full or partial BLM involvement during FY 1978 include:

16 power plant complexes (including 4 nuclear plants)
50 power transmission lines (69 to 500 KV, many interstate, ranging from 50-800 miles)
13 oil and gas pipelines (including Trans-Alaska Pipeline), and the SOHIO and Arctic Gas Pipelines
5 industrial reservoirs
5 railroads
22 miscellaneous including solar, desalinization and hydroelectric plants

111 Projects

Residual monitoring of the Alaska pipeline construction, and completion of the construction of 5 pumping stations and the terminal facilities will be continued into FY 1978. Operations and maintenance monitoring and surveillance will also go into effect. Principle functions of this monitoring include:

- development and carrying out an O&M surveillance plan.

- continuing all responsibility associated with grants and permits issued during the course of construction of pipeline and extending into the post-construction period

PROGRAM DESCRIPTION

Rights-of-Way Processing +$10,400,000; Total $10,400,000
+163 Positions; Total 163 Positions

The Federal Land Policy and Management Act provides for full cost recovery, exclusive of managerial overhead, for the processing and administration of rights-of-way over the public lands. Title I of the 1973 amendment to the Mineral Leasing Act of 1920 also provides authority to the Secretary of the Interior to process and issue permits for oil and gas pipeline rights-of-ways that cross the lands of any two or more Federal agencies; this authority has been redelegated to BLM and appropriate cost recovery procedures for these types of actions will follow the general procedures established for public land rights-of-way.

Receipt of an application for a right-of-way will be followed by a cost estimate to process that application up to the point of permit issuance or rejection. As applicable, periodic advance deposits will be requested from the applicant which will be deposited in this appropriation and used to finance the costs of processing. By use of a special code number for each project, BLM's automated financial management system keeps track of the total costs associated with each project including reasonable allocation for certain indirect common program service costs. At the time of permit issuance or rejection any unused deposits are refunded to the applicant or credited against deposit requirements for construction monitoring. Similar deposits, cost accounting and refunds of unused deposits occur during construction and post construction monitoring of an approved right-of-way permit.

Because of the unpredictable nature of when and where rights-of-way requests, may occur, this new Service Charges, Deposits and Forfeiture appropriation will give BLM greater flexibility in responding to rights-of-way applicants and will ensure immediate availability of funds for processing applications. Accordingly, it will also negate the need for regular supplemental appropriations when a new, unplanned project suddenly arrives on the scene as has been required recently for such efforts as the SOHIO (Southern California to Midland, Texas) and Arctic Gas pipeline.

MAJOR PROGRAM CHANGES

2. Repair of Lands and Facilities +$850,000; Total $850,000
+2 Positions; Total 2 Positions

Proposal. To utilize revenue from forfeitures of bonds or deposits to assure fulfillment of permits and leases. When the lands or facilities are damaged and are not rehabilitated by the permit or lease holder, the bonds and deposits are forfeited.

Justification. The Federal Land Policy and Management Act (94-579) provides that as a result of the forfeiture of a bond or other security by a resource developer purchaser, or permittee who does not fulfill the requirement of a contract, permit, or regulations, the BLM is authorized to use these funds to cover the cost of any improvement, protection, or rehabilitation work on damaged lands and facilities.

PROGRAM DESCRIPTION

2. Repair of Lands and Facilities — $850,000
2 Positions

Funds will be used to restore or rehabilitate damaged lands or facilities to reduce resource and economic loss. The need for rehabilitation of damaged lands is assessed in terms of the possibility of downstream flooding, potential for natural healing in a short time, erosion and run off potential, and other off-site as well as on-site factors. If rehabilitation is deemed necessary, work is begun as soon as possible to stabilize conditions and regenerate vegetative covers.

Delay in starting revegetation or other rehabilitation measures often allows site deterioration to get a head start, rendering some treatment techniques ineffective and most often resulting in more costly measures.

Repairs are made to public land facilities such as water developments, recreation facilities and other facilities in an expeditious manner to protect the utility of the facility for the general public and other public land users. This activity also provides for the reclamation of community pits and common material sites.

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 211(b)(2), 304(a), 304(b), 305(a) and 504(g) of the Act approved October 21, 1976, Public Law 94-579, to remain available until expended.

EXPLANATION OF NEW APPROPRIATION LANGUAGE
AND ACTIVITY STRUCTURE

The proposed language for "Service Charges, Deposits, and Forfeitures" will create a new receipt limitation no-year special fund appropriation of all revenues collected under specified sections of the Federal Land Policy and Management Act of 1976. In each instance, the Act authorizes appropriation of those receipts. Sections 304a, 304b, and 504g are applicable to the collection of reasonable administrative and other costs, including environmental impact statement preparation costs, in connection with right-of-way applications from the private sector. Costs of "management overhead" and that portion of processing costs, if any, that are incurred for the general public benefit will not be charged to applicants as specified in Section 304(b). These costs will continue to be borne by the "Management of Lands and Resources" appropriation as will as the cost of processing right-of-way applications from governmental agencies.

Section 305 of the Federal Land Policy and Management Act replaces previously existing authority which permanently appropriated certain receipts under the account title "Expenses, Public Land Administration Act." These receipts include, but are not necessarily limited to, collections for timber trespass damages, from forfeitures of timber sale bonds, and for reclamation of community pits and common material sites. The new Act repeals the permanent appropriation Public Land Administration Act authority and requires appropriations language to be enacted annually to make these revenues available. Section 305 collections will be expended under the proposed "Repair of lands and facilities" activity. As required by the Act, applicable collections from the Oregon and California Grant Lands will be expended only for repair of those lands and will be segregated from collections made elsewhere.

No-year language is necessary for this account because rights-of-way processing costs are deposited in advance of the work being done and receipts in one year will often be needed for expenses in the following year.

Section 211(b)(2) of the new Act provides new authority to sell so called "omitted lands" (lands fraudulently or erroneously omitted from original cadastral surveys) to private individuals upon payment of fair market value, the cost of surveys, and applicable administrative costs. Subsequent to initial drafting of the proposed appropriations language for this account, it was determined that the revenues from the omitted lands sales function should be treated as trust fund receipts similar to amounts received under other laws authorizing individuals to make deposits for survey work. Therefore, section 211(b)(2) is erroneously cited in the "Service Charges, Deposits, and Forfeitures" language in the printed Budget. It is requested that the Congress modify the proposed language accordingly.

SERVICE CHARGES, DEPOSITS, AND FORFEITURES

Program and Financing (in thousands of dollars)

Identification Code 14-5017-0-2-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Program by activities:				
	1. Rights-of-way processing	--	--	--	10,400
	2. Repair of lands & facilities	--	--	--	850
10.00	Total program costs, funded (obligations)	--	--	--	11,250
	Financing				
40.00	Budget authority (appropriation) (indefinite, special fund)	--	--	--	11,250
	Relationship of obligations to outlays:				
71.00	Obligations incurred, net	--	--	--	11,250
74.00	Obligated balance, end of period	--	--	--	-750
90.00	Outlays	--	--	--	10,500

SERVICE CHARGES, DEPOSITS, AND FORFEITURES

Object Classification (in thousands of dollars)

Identification Code 14-5017-0-2-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Personnel compensation:				
11.1	Permanent positions	--	--	--	2,308
11.3	Positions other than permanent	--	--	--	580
11.5	Other personnel compensation	--	--	--	15
	Total personnel compensation:	--	--	--	2,903
12.1	Personnel benefits: Civilian	--	--	--	302
21.0	Travel & transportation of persons	--	--	--	561
22.0	Transportation of things	--	--	--	220
23.2	Rent, communications, and utilities: Other rent, communications, and utilties	--	--	--	270
24.0	Printing and reproduction	--	--	--	585
25.0	Other services	--	--	--	5,306
26.0	Supplies and materials	--	--	--	193
31.0	Equipment	--	--	--	310
32.0	Lands and structures	--	--	--	600
99.0	Total obligations	--	--	--	11,250

Personnel Summary

Total number of permanent positions	--	--	--	165
Full-time equivalent of other positions	--	--	--	60
Average paid employment	--	--	--	217
Average GS grade	--	--	--	9.33
Average GS salary	--	--	--	$15,982

BUREAU OF LAND MANAGEMENT
Working Capital Fund

Appropriation, 1977	-
Unobligated balance from prior years	-
Total available for obligation	-
Increases:	
Initial capital for working capital fund	$2,000,000
Budget Estimate 1978	$2,000,000

83-561 O - 77 - 13

BUREAU OF LAND MANAGEMENT
Working Capital Fund
Analysis by Activities

Activity/ Subactivity	Appropriation 1976	Appropriation 1977	No. of Perm. Positions	1978 Budget Estimate	No. of Perm. Positions	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Positions
Working Capital Fund	--	--	--	$2,000,000	115	+$2,000,000	+115*

*Reflects proposed transfer of existing positions from other appropriations.

Working Capital Fund: Fiscal Year 1977, -0-; Fiscal Year 1978, $2,000,000; increase of $2,000,000.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
$ +2,000,000	+115	$ 2,000,000	115	To provide initial capitalization for fund; positions are not new ones, but are transfers from other appropriations.
+($200,000)		(200,000)		GSA space costs incl. above.
+$2,000,000	+115	+$2,000,000	115	

PROGRAM SYNOPSIS

The working capital fund was authorized by the Federal Land Policy and Management Act of 1976 (Public Law 94-579, section 306). This intragovernmental fund is to be available for support activities including furnishing supplies, equipment services, and aircraft services in support of Bureau programs. The capitalization for the fund will come from this appropriation plus the value of net inventories, equipment, and other assets transferred (without reimbursement) to the fund as it is implemented. Services and supplies provided by the fund to other BLM activities and other Federal agencies will be charged at rates designed to recover costs including an income provision for increased future costs of equipment replacement.

Proposal: Upon appropriation and transfer of assets, the working capital fund will operate necessary storage facilities, equipment yards, and related improvements. The fund will purchase, lease, or rent of motor vehicles, aircraft, heavy equipment, and fire control and other resource management equipment.

The 115 positions increase shown in this appropriation are transfers from other BLM appropriations and are as follows:

Appropriation	Activity	Number	Total Appropriations
Management of Lands and Recources	Range Mgmt.	5	
	Soil, Water, Air Mgmt.	2	
	Wildlife Habitat Mgmt.	2	
	Fire Mgmt.	5	
	Forest Mgmt.	1	15
Oregon and California Grant Lands	Road Maintenance	50	
	Forest Development	5	
	Recreation Facilities Maintenance	5	60
Acquisition, Construction & Maintenance	Road Maintenance	24	
	Recreation Facilities Maintenance,	5	
	Building Maintenance	1	30
Range Improvement	Range Improvement	10	10
TOTAL			115

Justification: The working capital fund will be a self-sustaining revolving fund. After initial capitalization, the fund will supply and support services of the Bureau, other Interior agencies, and other Federal agencies at use rates which will recover the costs of operations, repair and maintenance, depreciation, warehousing, transportation, and administration. Additionally, the use rate will include an increment to provide additional resources for replacement of fully depreciated equipment, which without benefit of this replacement increment could not otherwise be replaced solely from the fund.

In providing for replacement of major capitalized equipment through a working capital fund, the Bureau will have the capability to deal with fluctuations normal to a continuing cycle of business-type operations. By eliminating the "peak and valley" problems related to major capitalized equipment purchases from a single year's appropriation, the BLM will be better able to stabilize operating program levels from year to year. A major example is the impact of purchasing needed replacement road maintenance equipment such as motor patrols on a BLM state's operating budget for a single year.

Another advantage of the self-sustaining working capital fund is the economics of scale the fund will enjoy. It will facilitate centralized buying, as well as large volume buying of supplies and materials which should allow discounts to accrue to the fund which in turn can be passed on as savings to customer activities.

EXAMPLE OF EQUIPMENT SERVICES TO BE PROVIDED BY THE WORKING CAPITAL FUND FOR THE ROAD MAINTENANCE PROGRAM

Cost Factors. The $2,000,000 of initial capitalization will provide the start-up operating costs of the fund until revenues begin to accrue.

PROGRAM DESCRIPTION

Aircraft services is one of the support services to be provided by the fund. In providing this service for fire and other programs, the fund will acquire aircraft currently owned and/or leased (long-term) by BLM which are located at the Boise Interagency Fire Center (BIFC). Rates will be charged to the activity or agency requesting aircraft support so as to recover full costs of operations and a fair contribution to future replacement reserves. In doing business in this manner, the fund will insure accurate allocation of costs to benefiting activities and/or agencies.

Equipment services, like aircraft services, will be provided by the fund. Currently owned BLM major capitalized equipment will be transferred to the fund, and will be charged out at a use rate insuring full costs recovery and a fair contribution to future replacement reserves. Examples of this type of service include road graders, bulldozers, back-hoes, front-end loaders, etc.

Supply services will include the sale of needed resource and facility development and maintenance supplies, and supplies used in cadastral and firefighting programs. This includes such diverse items as fire kits (clothing, shoes, axes, chain saws, shovels, sleeping bags, blankets, etc.), signs for buildings, roads, recreation sites, etc. (some of which are currently fabricated in BLM's sign shops to be operated by the fund), food stores for firefighers etc. Costs of these items will be charged so as to recover full costs of purchase by the fund, warehousing, etc. The supply service function is not expected to be operational until the later part of FY 1978 as more preliminary administrative and accounting systems work is required prior to activation of this activity as compared to aircraft and equipment services.

HELICOPTERS ARE USED FOR AERIAL SEEDING AND OTHER DEVELOPMENT, AND PROTECTION ACTIVITIES

Space: Public Law 92-313, Public Building Amendments of 1972, requires that effective July 1, 1974, agencies be charged for space and related services provided by General Services Administration (GSA) at approximate commercial equivalent rates. The estimated requirement for space and related services in GSA facilities based on rates supplied by GSA, $200,000, is included in the program for this appropriation.

WORKING CAPITAL FUND

For initial capital for the working capital fund to be established pursuant to Section 306 of the Federal Land Policy and Management Act of 1976 (Public Law 94-579), $2,000,000, to remain available until expended.

EXPLANATION OF NEW APPROPRIATION LANGUAGE

Section 306 of the Federal Land Policy and Management Act of 1976 authorizes a BLM Working Capital Fund and appropriations of up to $3 million for initial capitalization of the fund. The proposed appropriation language will make $2.0 million available until expended for this purpose. Once established, the fund will be a self-sustaining revolving fund.

WORKING CAPITAL FUND

Program and Financing (in thousands of dollars)

Identification Code 14-4525-0-4-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Program by activities:				
	Land Management related supplies and support:				
	Operating costs, funded	--	--	--	12,300
	Capital outlay, funded	--	--	--	1,200
	Unfunded adjustments to total operating cost: Property transferred in without charge	--	--	--	-2,500
	Total program costs, funded	--	--	--	11,000
	Change in selected resources (Stores, undelivered orders)	--	--	--	3,200
10.00	Total obligations	--	--	--	14,200
	Financing:				
	Offsetting collections from:				
11.00	Federal funds:				
	Revenue	--	--	--	-12,200
	Income provision for increased cost of equipment replacement	--	--	--	-300
24.00	Unobligated balance, end of period	--	--	--	300
40.00	Unobligated balance, end of period	--	--	--	2,000
	Relation of obligations to outlays:				
71.00	Obligations incurred, net	--	--	--	1,700
74.00	Obligated balance, end of period	--	--	--	-1,700
90.00	Outlays	--	--	--	-- a/

a/ Outlays are reflected in "customer" appropriation accounts.

WORKING CAPITAL FUND

Object Classification (in thousands of dollars)

Identification Code 14-4525-0-4-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Personnel compensation:				
11.1	Permanent positions	--	--	--	1,780
11.3	Positions other than permanent	--	--	--	810
11.5	Other personnel compensation	--	--	--	10
	Total personnel compensation	--	--	--	2,600
12.1	Personnel benefits: Civilian	--	--	--	250
21.0	Travel & transportation of persons	--	--	--	50
22.0	Transportation of things	--	--	--	90
	Rent, communications, & utilities				
23.1	Standard level user charges	--	--	--	200
23.2	Other rent, communication, & utilities	--	--	--	100
24.0	Printing and reproduction	--	--	--	10
25.0	Other services	--	--	--	2,500
26.0	Supplies & materials	--	--	--	7,200
31.0	Equipment	--	--	--	1,200
99.0	Total obligations	--	--	--	14,200

Personnel Summary

Total number of permanent positions	--	--	--	115
Full-time equivalent of other positions	--	--	--	90
Average paid employment	--	--	--	195
Average GS grade	--	--	--	9.33
Average GS salary	--	--	--	$15,982

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 (Public Law 94-579), and such amounts as may be advanced for administrative costs, surveys, appraisals, and cost of making conveyances under Section 211(b) of that Act.

EXPLANATION OF NEW APPROPRIATION LANGUAGE AND TRUST ACCOUNT TITLE

The Public Land Policy and Management Act of 1976 contains new authorities for receipt and expenditure of monies received as donations or gifts (Section 307). The Act also provides for the sale of unsurveyed islands to states or their political subdivisions, and for the sale of omitted lands (lands fraudulently or erroneously omitted from original cadastral surveys) to states, political subdivisions, or individuals. Under the Act, states or political subdivisions may donate funds for cadastral surveys required prior to conveyance, and individuals must additionally pay administrative costs and fair market value of the land (receipts in payment of fair market value will be deposited to the general fund). Revenues for unsurveyed islands and omitted lands surveys and administrative costs of conveyance plus gifts and donations under Section 307 must all be appropriated before they can be used. The proposed appropriations language will accomplish this.

BLM is also authorized to accept contributions under the Taylor Grazing Act, and to accept advances by individuals to pay the costs of cadastral surveys requested by them under various statutes. Prior to 1977, these funds were available under two permanently authorized trust funds - "Contributed Funds" and "Expenses, Public Survey Work". To simplify the budget structure , these two trust funds are being combined into a single new trust account, the "Land and Resources Management Trust Fund" in Fiscal Year 1977. The new authorities and functions described above, which require Appropriations Act language, will be added under this fund in Fiscal Year 1978. Separate subactivities within the fund will be used to segregate Taylor Grazing Act contributions , unsurveyed islands and omitted lands conveyance expenses, expenses of other public survey work, and gifts and donations under Section 307 of the Federal Land Policy and Management Act of 1976.

TRUST FUNDS

Program and Financing (in thousands of dollars)

Identification Code 14-9971-0-7-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Program by activities:				
	1. Land & resources management trust fund	--	--	699	699
	2. Contributed funds	336	121	--	--
	3. Expenses, public survey work	61	37	--	--
	4. Trustee funds, Alaska townsites	10	--	1	1
	Total program costs, funded	407	158	700	700
	Change in selected resources (unpaid undelivered orders)	37	-63	--	--
10.00	Total obligations	444	95	700	700
	Financing				
21.00	Unobligated balance available, start of period	-774	-751	-889	-889
24.00	Unobligated balance available, end of period	751	889	889	889
	Budget authority	421	233	700	700
	Budget authority:				
	Current:				
40.00	Appropriation (indefinite)	--	--	100	100
	Permanent:				
60.00	Appropriation (undefinite)	421	233	600	600
	Distribution of budget authority by account:				
	Land & resources management trust fund	--	--	699	699
	Contributed funds	295	181	--	--
	Expenses, public survey work	96	50	--	--
	Trustee funds, Alaska townsites	31	2	1	1
	Relation of obligations to outlays:				
71.00	Obligations incurred, net	444	95	700	700
72.00	Obligated balance, start of period	75	109	44	94
74.00	Obligated balance, end of period	-109	-44	-94	-144
90.00	Outlays	411	160	650	650
	Distribution of outlays by account:				
	Land & resources management trust fund	--	--	605	649
	Contributed funds	334	131	40	--
	Expenses, public survey work	61	34	4	--
	Trustee funds, Alaska townsites	15	-5	1	1

TRUST FUNDS

Object Classification (in thousands of dollars)

Identification Code 14-9971-0-7-302		1976 Act.	T.Q. Act.	1977 Est.	1978 Est.
	Personnel compensation:				
11.1	Permanent positions	37	10	73	73
11.3	Positions other than permanent	122	24	188	188
11.5	Other personnel compensation	7	2	8	8
	Total personnel compensation	166	36	269	269
12.1	Personnel benefits: Civilian	14	3	17	17
21.0	Travel & transportation of persons	6	9	13	13
22.0	Transportation of things	10	5	13	13
23.2	Rent, communications, & utilities: Other rent, communication, & utilities	13	2	15	15
24.0	Printing & reproduction	--	--	20	20
25.0	Other services	51	15	82	82
26.0	Supplies & materials	78	12	156	156
31.0	Equipment	27	4	3	3
32.0	Lands & structures	79	9	112	112
99.0	Total obligations	444	95	700	700

Personnel Summary

Total number of permanent positions	3	--	3	3
Full-time equivalent of other positions	12	--	12	12
Average paid employment	14	--	14	14
Average GS grade	9.39	--	9.33	9.33
Average GS salary	$15,138	--	$15,747	$15,982

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, in 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 [of] 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 herein appropriations 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 notwithstanding any other provisions of law, payments to States made in fiscal year 1977, under the Mineral Leasing Act of 1920 (30 U.S.C. 191, 30 U.S.C. 285), will be based on receipts collected during the period July 1, 1976, through March 31, 1977: *Provided further,* That notwithstanding any other provisions of law, Bureau of Land Management payments to States and counties made in fiscal year 1977, under statutes other than the Mineral Leasing Act of 1920, will be based on receipts collected during the period July 1, 1976, through September 30, 1976]. *(Department of the Interior and Related Agencies Appropriation Act, 1977.)*

EXPLANATION OF CHANGES IN LANGUAGE

In cooperation with the Department of State, BLM provides reimbursable assistance to Canada in fighting some large wildfires. The Tort Claims Act does not cover Bureau employees operating government owned vehicles in Canada. Thus, Bureau employees could be held personally liable for accidents which could occur during the discharge of official duties in Canadian territory. The first change in the proposed administrative provisions language will permit the Bureau to insure government owned vehicles in Canada and thus protect Bureau employees against personal liability should accidents occur.

In combating illegal activities such as trafficking in wild horses, it is sometimes necessary for BLM special agents to purchase information or evidence, or to immediately acquire material and/or services to insure the success of a law enforcement operation. Proposed new Administrative Provisions language will permit expending up to $10,000 for each of these two functions at the discretion and approval of the Secretary, and without regard to usual procurement regulations as the situation dictates. The confidentiality of such purchases can be paramount, assuring the safety of special agents and others.

Other changes to the Administrative Provisions are proposed to delete an unnecesary and confusing preposition and to delete the special authorization required to make payments of shared revenues in fiscal year 1977 based on Transition Quarter receipts.

BUREAU OF LAND MANAGEMENT

CONSOLIDATED SCHEDULE OF PERMANENT POSITIONS PAID FROM FUNDS AVAILABLE TO THE BUREAU OF LAND MANAGEMENT

	1976 Actual	1977 Estimate	1978 Estimate
Executive Level V	1	1	1
Subtotal	1	1	1
GS-17	1	1	1
GS-16	12	12	12
GS-15	51	51	51
GS-14	144	146	146
GS-13	397	432	434
GS-12	786	860	870
GS-11	1,221	1,360	1,405
GS-10	16	16	16
GS- 9	890	960	1,016
GS- 8	106	107	107
GS- 7	500	583	591
GS- 6	268	286	286
GS- 5	508	585	593
GS- 4	230	264	269
GS- 3	63	75	78
GS- 2	6	4	4
Subtotal	5,199	5,742	5,879
Total permanent positions	5,200	5,743	5,880
Unfilled positions, June 30	-442	-468	-468
Total permanent employment, end of year	4,758	5,275	5,412

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

OFFICE OF WATER
RESEARCH AND TECHNOLOGY

PROGRAM HIGHLIGHT STATEMENT

The program proposed for the Office of Water Research and Technology (OWRT) for fiscal year 1978 amounts to $21,112,000, an increase over the FY 1977 appropriation of $2,082,000. Funds available for FY 1977 include a saline water carryover amount of $499,731 for a total FY 1977 program of $19,529,731.

The proposed fiscal year 1978 program assumes enactment of legislation proposed by the Administration. This legislation, among other things, restores authority for the "Additional Water Resources Research" program which expired at the end of the transition quarter. That program, in FY 1976, included research in the following priority areas: Water resources planning and management; protection of the water and water-related environment; and solving of energy-related water problems. Topics for the "Additional Water Resources Research" program are selected based on need and water problem priorities and are changed as requirements change. This successful and important program was deleted when no action was taken to extend the Title II authority of the Water Resources Research Act of 1964, PL 88-379 as amended, or to enact legislation proposed by the Administration. Due to fiscal constraints, only research in the areas of Water Resources Planning and Management and Water Reuse Research and Planning are proposed to be conducted in FY 1978 under the new authority sought with the FY 78 budget.

Proposed legislation also authorizes continuation of the saline water program as the Saline Water Conversion Act, PL 92-60, expires at the end of FY 1977. The Saline Water Conversion Act does provide for a three-year phase out period beyond the close of FY 1977. Legislation proposed by the Administration for FY 1978 consolidates and extends the program of Water Resources Research and Saline Water Conversion.

Program Status

In addition to the Saline Water and Additional Water Resources Research Programs mentioned above, the Office of Water Research and Technology provides support for 54 Water Resources Research Institutes which conduct research, investigations and experiments in relation to water resources. These State institutes also provide for the training of scientists through these activities, as well as the interpretation and dissemination of information about research results to potential users. In fiscal year 1977, fifty-one of the institutes are funded at $110,000, while the three others, i.e., Guam, Virgin Islands, and the District of Columbia are funded at $40,000. The State institutes also compete for Matching Grant research funds, which must be matched, dollar-for-dollar, by State or non-Federal sources. These funds are for the conduct of specific water resources research projects of importance to the State or the region which could not otherwise be undertaken. The Matching Grant activity is funded at $3,200,000 for FY 1977. State institutes are located at a designated university or college within each State. Other colleges and universities within a State may participate in the work of the designated State institute.

Funds were authorized and appropriated for saline water membrane and other conversion research, and for water reuse research and planning under the Saline Water Act. Major emphasis will be placed on sea and brackish water membranes. Funds appropriated for water reuse research will be used to begin work in the following areas, evaluation of National and regional water reuse needs and potential, evaluation of existing and advanced technology for reuse application, municipal, industrial and agricultural reuse, processes and systems, and planning and management aspects of reuse.

No new work is being undertaken in FY 1977 under the activity of Water Resources Research whose authorization expired at the end of the Transition Quarter. Ten years of research effort in the areas of Water Resources Planning and Management, Protection of the Water and Water Related Environment and Solving of Energy

83-561 O - 77 - 14

Related Water Problems is coming to a halt as the various contracts are concluded. Many of the competent organizations performing this work for OWRT under contracts and grants are not eligible for funding through universities under the State institutes programs and have, out of economic necessity, moved on to other work. Lack of Title II authority and funding means that the talents of private industry, as well as universities such as MIT, Harvard, Stanford and CalTech, cannot be tapped.

Water resources technology Development programs are currently being carried out for: brackish water membranes at Roswell, New Mexico; sea water membranes and freezing at Wrightsville Beach, North Carolina, and high temperature sea water electrodialysis at Watertown, Massachusetts.

Technology transfer activities are being carried out at a level 50% below the amount requested since funds to carry on this activity were only appropriated under the Saline Water Act authorization. Due to the limited authority, technology transfer programs are being concentrated on saline water conversion and waste water reuse related technology. Water resources research technology transfer activity for other areas of water research will be postponed until FY 1978 due to lack of funds.

The Water Resources Scientific Information Center currently is conducting customer-oriented presentations and demonstrations of the Center products and services to acquaint water researchers of how best to use the system and how to obtain maximum benefit from the system in conducting water resources research. The Center's information base now has in excess of 100,000 abstracts and will acquire and process approximately 14 thousand more during FY 1977.

Proposed Activities for Fiscal Year 1978

Research and development priorities and activities are established and carried out in consultation with other departmental offices, Federal Agencies, the Federal Interagency Committee on Water Resources Research, the National Association of Water Institute Directors, Advisory Groups, and other elements of the water resources scientific community. The intent is that, within constraints, OWRT research and development will be responsive to National water research needs.

Assistance to State Water Research Institutes - In FY 78 we are proposing a total program of $6,525,000, or $795,000 above the FY 77 appropriation. This amount provides for $125,000 for each of the 51 institutes and $50,000 for each for Guam, Virgin Islands, and the District of Columbia. There has been no increase in funding for the State institutes for the past three years. Inflation has eroded away the research dollar, resulting in a significantly reduced level of effort. The minimally increased amount proposed for FY 78 will partially offset increased costs.

Matching Grants to State Water Resources Research Institutes - The matching grant program is a means to channel scarce research funds to those States and regions having the more critical water problems and hence the greater need for research. The institutes in these regions have cooperated with each other to solve problems on a multi-university, multi-disciplinary basis, when necessary. Each Federal dollar is matched and in many cases exceeded by institute non-Federal funds. We are proposing a program of $3,500,000 for matching grants for FY 1978, an increase of $300,000. While this amount is below the $5.0 million authorized to be appropriated by the Water Resources Research Act, as amended, it will provide the means to concentrate needed research on critical water or water-related problem areas.

Water Resources Research - The 94th Congress did not act upon legislation proposed to extend and enlarge the scope of this program for FY 77 and subsequent years. Research conducted under this activity was directed toward solving the most urgent National water problems and included research in the areas of Water

Resources Planning and Management, Water Use Efficiency, Protection of water and water-related Environments, Solving of Energy-Related Water Problems, and Water Reuse Research and Planning. The grouping of this research into those categories was not intended to exclude other problem areas, but rather for presentation purposes showing areas of highest priority. For FY 78 we are proposing a research program of $3,775,000 for this activity comprised of $1,285,000 for Water Resources Planning and Management, $1,290,000 for Water Reuse Research and Planning, and $1,200,000 for Water Conversion Processes. The amount requested for Saline Water Conversion Research represents an increase of $400,000 over FY 1977 or an increase of 50%.

Technology Development - This activity includes Technology Transfer, Water Reuse, Other Water Technologies, and the Saline Water Technology Development. The total amount proposed for Technology Development is $3,800,000, 19% below the FY 1977 level. The program proposed for FY 78 assumes the closing of the Wrightsville Beach, North Carolina Test Facility and the Roswell, New Mexico Test Facility at the end of FY 77 and discontinues the Freezing technology development activity. The Saline Water activity includes the development of High-Recovery Brackish Water Membranes and Systems with the end objective of increasing the recovery of the Yuma Desalting Plant from 75% to near 90%. Field tests will probably be conducted at the Bureau of Reclamation Yuma Test Facility. The Water Reuse Program will emphasize the testing of small size advanced technology treatment processes for industrial waste water for reuse. Sea water membrane development will continue and tests will be conducted at various contractor locations. The FY 78 Technology Transfer Program will be conducted on all phases of OWRT's water resources research and technology development activities.

Scientific Information Center - The program proposed for the Scientific Information Center is essentially a continuation of FY 77 activity allowing for no increase in funds.

Administration - Administration provides the funds for salaries and related expenses to support the offices and activities of the Office of Water Research and Technology. The program proposed requires $2,412,000.

Status of Authorizations

An amendment to the Water Resources Research Act of 1964, PL 88-379 as amended, was transmitted to the 94th Congress and introduced as S. 1301. That amendment proposed to expand the Act to include technology development and saline water programs authorized by the Saline Water Conversion Act of 1971, PL 92-60 as amended. The amendment further proposed to expand the patent article to facilitate and encourage the financial participation by industry in Office of Water Research and Technology programs. The proposed patent changes provided industry with an incentive to improve and adopt the technology developed by OWRT for commercial use.

The 94th Congress did not act on S. 1301 and so Title II of PL 88-379 expired at 6/30/76 after ten years of highly successful research. That Congress did introduce and pass legislation to continue the saline water program, including water reuse, some technology transfer, and the patent article proposed by the Administration. The patent provisions were also made applicable to the Water Resources Research Act.

* New legislation to accompany this budget submission proposes to breathe new life into the Water Resources Research and Saline Water Programs and to clarify certain functions currently authorized. It is highly recommended that the 95th Congress act favorably on the proposed new legislation.

DEPARTMENT OF THE INTERIOR
OFFICE OF WATER RESEARCH AND TECHNOLOGY
SUMMARY OF APPROPRIATIONS
BUDGET AUTHORITY
(in thousands of dollars)

Account & Functional Code		1976 estimate	1977 estimate	1978 estimate
Federal Funds				
General & Special Funds:				
Salaries and Expenses	301	18,180	19,030	21,112
Reimbursable Program	301	...	1,300	750
Offsetting Collections	301	...	-1,300	-750
Consolidated Working Fund	301	...	...	...
Total Federal Funds		18,180	19,030	21,112

DEPARTMENT OF THE INTERIOR
OFFICE OF WATER RESEARCH AND TECHNOLOGY
ANALYSIS OF INCREASES AND DECREASES
SALARIES AND EXPENSES

Appropriation, 1977		$ 19,030,000
Unobligated balance from prior years		499,731
Reimbursable programs		1,300,000
Total available for obligation		$ 20,829,731
Decreases:		
Technology development	$ -1,399,731	
Reimbursable programs	- 550,000	$- 1,949,731
Subtotal		$ 18,880,000
Increases:		
Assistance to states for water research institutes	$ 795,000	
Matching grants to water research institutes	300,000	
Water resources research	1,775,000	
Administration	112,000	$ 2,982,000
Subtotal		$ 21,862,000
Offsetting collections reimbursable program		$- 750,000
Budget Estimate 1978		$ 21,112,000

DEPARTMENT OF THE INTERIOR
OFFICE OF WATER RESEARCH AND TECHNOLOGY

SALARIES AND EXPENSES
Analysis by Activities

Activity/Subactivity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
1. Assistance to State Water Research Institutes								
Appropriation	$ 5,730,000	$ 5,730,000	....	$ 6,525,000	....	$ +795,000	....	8
Unobligated balance br't fwd	....	....		....		....		
Obligation program	5,730,000	5,730,000		6,525,000		+795,000		
Unobligated balance carried fwd	....	....		....		....		
2. Matching Grants to Water Research Institutes								10
Appropriation	3,000,000	3,200,000	....	3,500,000	....	+300,000	....	
Unobligated balance br't fwd	....	....		....		....		
Obligation program	3,000,000	3,200,000		3,500,000		+300,000		
Unobligated balance carried fwd	....	....		....		....		
3. Water Resources Research								12
Appropriation	4,763,000	2,000,000	....	3,775,000	....	+1,775.000	....	
Unobligated balance br't fwd	....	....		....		....		
Obligation program	4,763,000	2,000,000		3,775,000		+1,775,000		
Unobligated balance carried fwd	....	....		....		....		
4. Technology Development								15
Appropriation	1,490,000	4,700,000	....	3,800,000	....	-900,000	....	
Unobligated balance br't fwd	2,729,871	499,731		....		-499,731		
Obligation program	2,320,000	5,199,731		3,800,000		-1,399,731		
Unobligated balance carried fwd	1,899,731	....		....		....		
5. Water Research Scientific Information Center								20
Appropriation	986,000	1,100,000	7	1,100,000	7	....	....	
Unobligated balance br't fwd	....	....		....		....		
Obligation program	986,000	1,100,000		1,100,000		....		
Unobligated balance carried fwd	....	....		....		....		

DEPARTMENT OF THE INTERIOR
OFFICE OF WATER RESEARCH AND TECHNOLOGY

SALARIES AND EXPENSES (Con't)
Analysis by Activities

Activity/Subactivity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
6. Administration								21
Appropriation	$ 2,211,000	$ 2,300,000	71	$ 2,412,000	71	$ +112,000	....	
Unobligated balance br't fwd	....	....		....		....		
Obligation program	2,211,000	2,300,000		2,412,000		+112,000		
Unobligated balance carried fwd	....	....		....		....		
Total Appropriation	18,180,000	19,030,000	78	21,112,000	78	+2,082,000	....	
Total Unobligated Brought Foward	2,729,871	499,731		....		-499.731		
Total Obligation Program	19,010,000	19,529,731		21,112,000		+1,582,269		
Total Unobligated Carried Foward	$ 1,899,731	....		....		....		

I. Assistance to State Water Research Institutes: Fiscal year 1977, $5,730,000; fiscal year 1978, $6,525,000; increase of $795,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) +$795,000	--	$6,525,000	--	State institute funding increase from $110,000 each to $125,000 each (51 institutes) and 3 new institutes increased from $40,000 each to $50,000 each.

Program Synopsis

This cooperative Federal/State activity provides support needed to assure continued operation of State Water Research Institutes. As a result of this program, the institutes, initiated in 1965, have established themselves as centers of high scientific competence and now possess the capability to provide major research assistance aimed at solving or mitigating water and water-related problems of the States, regions, and the Nation. These institutes have assumed leadership roles in meeting not only the urgent needs for water research, but also in training competent water resource personnel in demand by Federal, State, and local agencies.

A. Assistance to State Water Research Institutes

Fiscal year 1977, $5,730,000; fiscal year 1978, $6,525,000; increase of $795,000.

Major Program Changes

(1) Each of the 51 Water Research Institutes increased from $110,000 each to $125,000 each and the 3 new institutes , e.g., Guam, Virgin Islands, and the District of Columbia, from $40,000 each to $50,000 each.

Proposal/Justification

The program proposed will: (a) continue an effective institutional structure for multi-disciplinary water research and to concentrate water and water-related research efforts on important problems, (b) stimulate scientific attention toward critical water and water-related problems, (c) produce technical reports and literature on water resources research, (d) contribute directly to the analysis and solution of the many complex water problems, (e) increase the knowledge and competence of manpower involved in water resources so they may deal more effectively with the increasingly complex and critical water problems, (f) continue to function as a center of knowledge and serve as a Federal/State and interagency coordinating force, and (g) initiate regular consultation and collaboration between university scientists and the Federal and non-Federal users of water research at the regional, State, and local levels.

In addition to carrying forward about 400 new and continuing research projects, it is projected that in 1978 the State institutes will: (a) contribute approximately 50 percent of the cost of research and related activities; (b) provide for training approximately 1,800 water resources scientists and engineers through graduate and undergraduate student participation as research assistants in research projects; and (c) expand upon the extent of their knowledge and understanding of water problems and increase the application of research results to water problems.

Cost Factors

The request provides $125,000 for each of the 51 State institutes and $50,000 for each of the three new institutes. Current legislation authorized $250,000 each for all of the institutes. The funding level for the past three years has been held to the $110,000 level, with $40,000 for the new institutes. The increased cost of conducting research (salaries, equipment, etc.) justifies funding at the increased level.

The magnitude and urgency of the Nation's water-related problems, and the inflationary erosion of the research dollar that has occurred since 1968 when the institutes were funded at the $100,000 level, provide ample evidence of the need for increased funding. Without research to develop new or improved methods or technology for dealing with present and future water problems, actions to resolve such problems will prove unnecessarily costly.

II. Matching Grants to State Institutes: Fiscal year 1977, $3,200,000; fiscal year 1978, $3,500,000; increase of $300,000. The increase consists of

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$ 300,000	--	$3,500,000	--	Fund additional research

Program Synopsis

This activity supports research into water and water-related problem areas of State, regional, and National concern. This program is designed to complement both the "Assistance to States for Institutes" and "Water Resources Research" programs of OWRT.

A. Matching Grants to State Water Research Institutes

Fiscal year 1977, $3,200,000; fiscal year 1978, $3,500,000; increase of $300,000.

Major Program Changes

Major water resources problem areas warranting prompt research attention are summarized by region below:

1. New England Region - (a) control of excess water; (b) water supply augmentation and conservation; (c) control of entering pollutants; (d) effects of pollution; (e) water treatment process and disposal of wastes; (f) ecosystem effects; (g) impact of energy producing and using industries; and (h) water planning and management.

2. Middle Atlantic Region - (a) water treatment technology; (b) effects of pollution on aquatic ecosystems; (c) regional flood protection and flood plain management; (d) water conservation processes and minimum flow requirements; (e) socio-economic effects - water supply and wastewater management; (f) impacts associated with energy production; and (g) water planning and management.

3. South-Atlantic Gulf Region - (a) control of excess water; (b) control of entering pollutants; (c) ecosystem effects; and (d) methods and procedures for planning and management.

4. Southern Plains Region - (a) management of flood plains; (b) ground water depletion; (c) land subsidence due to ground water withdrawal; (d) ground water protection; (e) lake and reservoir quality degradation; (f) wastewater treatment and disposal; (g) energy cost and ground water pumpage; (h) ecosystems response; (i) effect of population growth and distribution; (j) Indian water rights; and (k) water planning and management.

5. Ohio-Great Lakes Region - (a) control of excess water; (b) water supply augmentation and conservation; (c) control of entering pollutants; (d) effects of pollution; (e) waste treatment processes and disposal of wastes; (f) economic effects; (g) ecosystems effects; (h) water planning and management; and (i) energy development.

6. Missouri Basin Region - (a) control of excess water; (b) water supply, reallocation, augmentation and conservation; (c) water quality; (d) effects of pollution; (e) water treatment processes and disposal of wastes; (f) economic and ecosystems effects; (g) energy-water relations; and (h) water planning and management.

7. Colorado - Great Basin Region - (a) Water supply, reallocation, augmentation and conservation; (b) water quality and salinity control; (c) environmental

impact concerns; (d) water planning and management; (e) effects of pollution and (f) water treatment and disposal of wastes.

8. Pacific Northwest Region - (a) control of excess flow; (b) control of entering pollutants; (c) effects of pollution; (d) water treatment processes and disposal of wastes; (e) ecosystems effects; (f) economic effects of water regulation and system optimization; and (g) public welfare effects of water management decisions.

Proposal

State and local water problems are many times of National concern. The program will be directed toward the research needs identified in pursuance of objectives of the analytical "Water Problems and Research Needs Identification" program development system initiated two years ago. This Office, the State institutes, and other Interior bureaus and offices, are involved in the development and implementation of this system.

Justification

Matching grant proposals that offer good prospects for resolving or mitigating water or water-related problems of urgent multi-state, regional, or river basin concern will receive priority consideration. Identification of water problems and related research needed is a continuing process and evaluation must be made regularly based on new information.

Cost Factors

Based on experience over the past several years, over 280 matching grant research proposals are expected to be submitted requesting about $12 million in Federal fund support. These proposals are submitted on a cost-sharing basis with at least 50 percent of the total cost contributed by the proposing institutions. The majority of the proposals will relate directly to water problems that, after in-depth analysis, have been designated as major by the States. Approximately one-fourth of all proposals submitted will be selected for support; hence, while most all the proposals will be meritorious, only the very best will be funded.

III. Water Resources Research: Fiscal year 1977, $2,000,000; fiscal year 1968, $3,775,000; increase of $1,775,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$ 400,000	--	$1,200,000		Basic and fundamental research on Saline Water Conversion Processes.
(B)+$1,285,000		$1,285,000		Reconstitute program that was not authorized for FY 1977.
(C)+$ 90,000		$1,290,000		Water Reuse - continuation of program started in FY 1977.
+$1,775,000		$3,775,000		

Program Synopsis

This activity will be carried out in the form of contracts and grants with public and private research entities to perform research directed towards finding solutions to the most urgent water and water-related problems; programs include (a) water conversion processes research; (b) water resources planning and management research; and (c) water reuse research and related planning research.

This program will be directed towards the following areas or subactivities:

A. Water Conversion Processes Research

Fiscal year 1977, $800,000; Fiscal year 1978, $1,200,000; increase of $400,000.

Proposal

The proposed FY 78 program will concentrate on membrane research. The objective is to achieve high flux, low pressure membranes capable of converting brackish, sea water, or waste water on an economical basis to usable water for beneficial purposes.

Primary research effort will be directed to those research needs deemed to be most critical for improving efficiency, extending the range of application, and reducing the costs of desalting processes which hold promise of substantial improvements over currently available technology. This effort will focus mainly on sea and brackish water membrane research.

Justification

The research areas which currently appear to exhibit the highest potential for significant payoff include the development of improved sea water RO membranes, the development of antifouling or fouling minimization techniques for membrane processes, and a broad spectrum of membrane research concerned with the creation of high-temperature, chlorine, and organic solvent resistant membranes.

Economical single-stage desalination of sea water requires a membrane that allows a rapid transport of water at practical pressures and high water recoveries. The membrane must reject about 99.5 percent of the sodium chloride to yield potable water in a single pass. This combination of membrane properties has been achieved on a laboratory scale with cellulose triacetate thin-film composite membranes and, more recently, with a polyamide thin-film composite membrane.

Those results indicate that single-stage sea water RO desalination is feasible and research will be continued to further pursue the promising results obtained with the polyamide membranes. Particular emphasis will be placed on research seeking to improve polyamide membrane resistance to chlorine degradation.

In addition, research will be conducted seeking to improve the performance of the polyamide membrane to allow for single-stage desalination at low pressures (600-800 psi) to reduce energy costs. Efforts will also be directed to the creation of membranes which will allow for greater recovery of product water.

In the area of brackish water membranes, emphasis will be on improved performance and durability. Promising beginnings have been made in the syntheses of high-performance membranes which are tougher, more resilient and more resistant to oxidative and hydrolytic attack than current membranes; and significant advances can be expected in FY 78.

Fundamental studies of membrane structure and morphology, leading to proper understanding of flux mechanism, could lead to a real breakthrough. There should thus be a modest effort in this sector, undertaken by the few scientists having suitable experience and ability.

Since pretreatment to preclude fouling represents a substantial fraction of total costs, the program should include two kinds of approach to the problem; anti-fouling membranes per se and work on pretreatment (ultra-filtration, foaming, chemical additives) which do not involve dismantling and manual cleaning.

Previous analyses indicate an excellent potential for the low-cost desalination of sea water and other highly mineralized waters by electrodialysis. To achieve this potential, research in the following areas is needed.

- o Anion selective membranes with improved fouling resistance;
- o Membranes with improved concentration polarization resistance;
- o Thinner membranes with lower electrical resistance and higher current efficiency;
- o Improved spacers to reduce pumping and power costs.

Freezing is a desalination process which is not subject to fouling of either heat transfer surfaces or membrane surfaces. Because of this and its ability to simultaneously separate ice and solid salts (eutectic freezing), it is particularly important as a possible means of eliminating or reducing the cost of brine disposal at island sites. Needed research includes:

- o Data on solids-liquids separation;
- o Data on packed beds of eutectic ice;
- o Crystallizers to grow larger crystals;
- o Low pressure low compression ratio compressors;
- o Design studies of multistate crystallizers and direct contact precoolers.

Also, we will investigate other novel techniques for desalting such as piezo-dialysis and thermally regenerated ion exchange resins.

B. Water Resources Planning and Management Research

Fiscal year 1977, $-0-; fiscal year 1978, $1,285,000; increase of $1,285,000.

Major Program Changes

The following programs conducted in FY 1976 could not be continued in FY 1977 as authorization had expired and funds were not appropriated: Water Resources Planning and Management; Water-Related Problem - Aiding Indians to achieve Self-Determination; Protection of the Water and Water-Related Environment; and Solving of Energy-Related Water Problems.

Proposal

Research proposed for FY 1978 includes the following priorities: (a) the nature of decision and choice processes; (b) information inputs and requirements for these processes; (c) comparative analyses of current processes as well as alternatives to these processes; (d) development of systems for displaying water resources management and development alternatives and trade offs among these alternatives to enable more rational analyses and better decisions; and (e) behavior of complex natural systems, e.g., hydrologic and meteorologic characterization and forecasting techniques. The work that is most badly needed tends to be interdisciplinary in nature. A span of disciplines, including lawyers, political scientists, psychologists, sociologists, economists, systems analysts, engineers, agricultural scientists, and earth scientists, must participate.

In addition, studies which are innovative in terms of the solution proposed need to be done. Such items as supplemental irrigation in humid areas and the definition of planning systems appropriate to the aspirations of native American cultures are samples of the areas in which innovative planning research can be valuable.

Justification

Resource systems management and operation raise difficult choices in an area when food and fiber production is increasing, energy development is accelerating, and mineral development is beginning to be of more concern. All these activities require water and can impact water quality and other aesthetic and ecologic concerns. These choices must be made in a management environment in which multiple value systems need to be considered and in which new decision processes need to be invented. Explicit methodologies, appropriate for decision-making in water resources planning, water allocation, and water systems operation in a changing value environment are yet to be proven through practical application.

C. Water Reuse Research and Planning

Fiscal year 1977, $1,200,000; fiscal year 1978, $1,290,000; increase of $90,000.

Proposal

The proposed research and development plan for water reuse is oriented toward supplementing existing water supply sources and conserving a reclaimable resource. The development of technology to economically reclaim waste water to meet quality requirements and provide an additional supply of water is a key element in fully utilizing our limited water resources. Waste waters with potential for reuse include those from municipalities, agriculture and industry. Major potential reuse applications of reclaimed waste waters include ground water recharge, irrigation, recreation, fish propagation, industrial processes, cooling water, domestic use, and energy conversion. Industrial reuse applications will be oriented toward high water consuming industries and those primarily located in potentially water-short areas.

The FY 77 research priorities are as follows: (a) evaluation of national and regional water reuse needs and potential; (b) evaluation of existing and advanced technology for reuse application; (c) research support of selected municipal, industrial and agricultural reuse applications; (d) research and development studies of treatment processes and systems; and (e) research on planning and management aspects of water reuse.

Cost Factors - A, B, and C

The FY 77 research program proposed amounted to $4.5 million. Since $2,000,000 was appropriated, some of the projects that were scheduled to be completed in FY 77 will extend into FY 78.

The program for FY 78 restores Water Planning and Management and continues Water Reuse. The balance of the program cannot be funded within funding constraints and other priority programs.

IV. Technology Development: Fiscal year 1977, $5,199,731; fiscal year 1978, $3,800,000; a decrease of $1,399,731. The decrease results from:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)-$ 49,731	--	$1,200,000	--	High recovery brackish water membrane development.
(B) --	--	$1,000,000	--	Sea water membrane development. No change.
(C)+$300,000	--	$ 800,000	--	Water reuse development, test and demonstration.
(D)-$700,000	--	--	--	Discontinue operations at Wrightsville Beach, N.C., and Roswell, N.M.
(E)-$850,000	--	--	--	Discontinue freezing process development.
(F)+$300,000	--	$ 600,000	--	Increase to transfer water resources research results.
(G)-$600,000	--	--	--	No additional funds needed to continue work on high temperature electrodialysis.
(H)+$200,000	--	$ 200,000	--	Other water technologies; new programs.
-$1,399,731		$3,800,000		

Program Synopsis

This activity is directed toward the development of technology from the product of successful research and the transfer of research and technology results to water planners, users, and others for practical application to water or water-related problems. This activity has four main objectives: water conversion processes, water resource technology, the transfer of research results and technology to agencies and individuals in need of solutions to water or water-related problems, and water reuse. Water resources technology development is a new function assigned this office last year. Congress did not authorize or appropriate funds requested in the Administration's budget request for water resources technology development.

A. Brackish Water High Product Recovery Technology Development

Fiscal year 1977, $1,249,731; fiscal year 1978, $1,200,000; decrease of $49,731.

Proposal/Justification

Because of the limited availability of usable water supplies, the fourteen Western States are very concerned about water supply and water quality and are continually looking for new water resources to meet the growing water demands of municipalities, industry and agriculture. Since the economic health of some of the Western States is greatly dependent on crop production, large volumes of water from the Colorado and other rivers flowing through the Western United States are used for irrigation. This water, during its passage through the soil, leaches salts present in the soil and becomes highly saline and no longer can be used for beneficial purposes. In many areas, the irrigation drainage flows into the nearby rivers, increasing their salinity. Unabated flow of these drainage waters has already increased the salinity of the Colorado River water, at certain locations, to a level where the waters are not suitable for municipal, industrial and agricultural uses.

In searching for new water resources, the Western States have identified agricultural wastes as a new potential water resource. Reuse of these waters for beneficial purposes requires application of treatment techniques to convert agricultural wastes to a water quality suitable for reuse. The membrane desalination method is one method that can be adapted and improved for this purpose. The Congress has authorized construction of a 100 mgd membrane desalination plant for treatment of agricultural wastes as part of the overall Colorado River Salinity Control program. The U.S. Bureau of Reclamation is presently in the process of designing this plant. An economic constraint in this plant design is the percent of waste water that could be converted into fresh water. Current membrane technology is adequate to design and operate a membrane desalting plant to recover 75% of the agricultural wastes as fresh water. This would result in discharge of the remaining 25% of the waste water as highly concentrated brine. Some of this discharge could be recovered by increasing the recovery of the system.

The results of laboratory studies supported by OWRT have indicated that it is technically feasible to recover up to 90% of the waste waters as fresh quality water. It is proposed to initiate programs in FY 78 to improve or develop new membranes, components and pretreatment systems to achieve an efficient and economical membrane system suitable for recovery above 75%. The technology developed will also be applicable for upgrading of the Yuma Desalting Plant from the initial 75% product water recovery. During FY 1978 a study will be undertaken to determine the economic feasibility of advancing recovery to 90% for application in the Yuma Desalting Plant. If the study indicates that the benefits, if any, derived from increased recovery are cost effective, then further work will be supported.

The membranes and components developed may be tested at the Yuma Desalting Test Facility to determine their structural integrity, service life and long-term performance.

Cost Factors

Development, evaluation and testing to be conducted in FY 78 amounts to approximately $1,200,000. The cost savings in Roswell operations of $400,000 will be applied to development of high recovery membranes.

B. Sea Water Membrane Development

Fiscal year 1977, $1,000,000; fiscal year 1978, $1,000,000; no change.

Proposal/Justification

This program will concentrate on sea water membrane development. Development and testing will be carried out by contractors under OWRT direction. Membranes being developed include non-cellulosic, cellulosic, and new and improved composite membranes. Testing of system components utilizing one-pass and two-pass membrane systems on sea water will also be undertaken. During FY 1978, planned developing and testing will be conducted on advanced technology modules, including single pass hollow fine fiber, single pass spiral cellulosic, and single pass spiral with thin composite membrane.

C. Water Reuse Technology Development

Fiscal year 1977, $500,000; fiscal year 1978, $800,000; increase of $300,000.

Major Program Changes

The water reuse program in FY 1978 includes testing on improved water for reuse. An increase of $300,000 is required for field test and evaluation.

Proposal

In FY 77, advanced treatment processes including membranes and other desalination devices will be evaluated on a number of municipal and industrial wastes to determine their suitability for economical treatment of waste waters for water reuse and to establish research and development needs required to utilize the desalination and other techniques for waste water treatment.

FY 1977 activities will also include participation in significant large scale industrial and municipal reuse projects to support and evaluate technology development and determine future technology requirements.

During FY 78, programs will be initiated to develop and test new components and pretreatment methods that are specifically adaptable for treatment of municipal, industrial and agricultural wastes for reuse. Where possible, efforts will be made to modify commercial desalination processes to be technically and economically suitable for waste water treatment at lowest cost.

Justification

The available commercial desalination hardware and techniques such as membranes, pretreatment methods, etc., were primarily developed for conversion of ground and surface brackish waters to fresh water quality supplies suitable for municipal, industrial and agricultural uses. These systems are not readily usable for all waste water and need adaptation for use in the renovation of waste waters.

D. Test Facility Operation and Maintenance

Fiscal year 1977, $700,000; fiscal year 1978, $-0-; decrease of $700,000.

Major Program Changes

The FY 78 development and test program focuses on development of new and improved membranes. Testing for brackish water membranes may be conducted at the Bureau of Reclamation facility - Yuma, Arizona, at an annual savings. The savings from discontinuing the Wrightsville Beach test program will be applied to other high priority programs. Future testing will be accomplished at various locations, including the Yuma Test Facility.

Proposal/Justification

During FY 77, the membrane test and evaluation work at the brackish and sea water test facilities will be directed toward developing membrane systems and associated auxiliary equipment that would reduce the capital and operating costs of membrane desalting systems. By the end of FY 77, it is expected that these programs will have been successfully completed.

Cost Factors

Annual savings of $700,000 in facility operation will provide for increased membrane development work, technology transfer and water reuse.

83-561 O - 77 - 15

E. Freezing Development

Fiscal year 1977, $850,000; fiscal year 1978, $-0-; decrease of $850,000.

Major Program Changes

Work on current freezing processes will be concluded at the end of FY 1977. Additional work may be needed for adaptation of these and other processes for applications in the reuse and sea water desalting programs.

Proposal

No further work is planned for freezing processes at this time.

Justification

Freezing processes may have applications in the water reuse program. If applications for this process are identified, funds will be requested in the water reuse program.

Cost Factors

The $850,000 savings will be applied to other high priority programs.

F. Technology Assessment and Research Transfer

Fiscal year 1977, $300,000; fiscal year 1978, $600,000; increase of $300,000.

Major Program Changes

This program was funded in FY 1977 for saline water and waste water reuse programs. The FY 1978 program plan calls for expansion of this activity to include all OWRT programs.

Proposal

This program proposes to prove the technology developed in the OWRT program to a point where it has demonstrated acceptability to the potential user community and, consequently, ready for further development or adaptive research. There are five major programs planned for FY 1978; (a) conferences and seminars; (b) technology assessment; (c) semi-technical publications; (d) design manuals and handbooks; and (e) technology demonstrations.

Justifications

There is an urgent need to determine and evaluate the technology that has been developed, relate this information to water and water-related problems, and, where promise and economics are appropriate, translate the technology into practical applications.

G. High Temperature ED Development

Fiscal year 1977, $600,000; fiscal year 1978, $-0-; decrease of $600,000

Proposal

Funds appropriated for FY 77 will provide for continuing testing into FY 78 and part of FY 79.

Justification

During FY 1977, a high temperature ED plant will be constructed and preliminary testing begun. Discussions have been held with the manufacturer concerning future testing and they have indicated a willingness to cost share in testing the pilot plant. Field evaluation testing will extend through FY 78 and FY 79 with no additional funding required.

H. Other Water Technologies

Fiscal Year 1977, $-0-, fiscal year 1979, $200,000; increase of $200,000.

Proposal

Successful research results will be applied to real water resources problems on a side-by-side basis with water resource operation and management individuals to determine the best alternatives. The development of software techniques for water resources problem solutions will provide a further means for developing water resources technology for application. Other possibilities include systems analysis techniques selected from the many innovative methods used in the research program which show promise of making improved contributions to the water resources planning and management practices.

Justification

Successful research needs development before tangible benefits can be fully realized. Research results will be examined, evaluated, and related to water resource problems. Exploratory and planning models will be developed that are problem-oriented to determine technology that has passed through the research stage which needs further modification and development to make it acceptable for use by the water resources community.

V. Scientific Information Center: Fiscal year 1977, $1,100,000; fiscal year 1978, $1,100,000; no increase.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
		$1,100,000	7	Continue program at current level

Program Synopsis

This activity covers the operation of the Water Resources Scientific Information Center. The Center was established eight years ago and has gained national and international reputation as the outstanding water resources technical information storage and retrieval center. It is the primary information source for researchers and others to identify what research has been undertaken and the results achieved. The significantly large information base developed includes abstracts selected from virtually all significant water resources research literature published since 1968.

A. Water Resources Scientific Information Center

Fiscal year 1977, $1,100,000; Fiscal year 1978, $1,100,000; no increase.

Proposal

The Center program goals include (a) responding effectively to the water resources community; (b) assisting materially in the avoidance of undesirable research replication; and (c) improving communications and coordination of efforts among agencies and individuals engaged in water related research.

Cooperative agreements have been executed with Australia, South Africa and Canada, whereby the Center will receive scientific information and in return provide technical information services.

The Center program calls for conducting customer-oriented presentations and demonstrations of Center products and services to show how a water resource individual can best use the system and how researchers' efforts can be made cost effective. Visual material will be prepared, e.g., charts, slides, and exhibits for presentations to the water resources organizations, researchers, and others.

Justification

The Center workload will include acquiring approximately 14 thousand abstracts reflecting the results of completed water resources research and legal, social, economic and planning aspects of water resources as described in technical journals, monographs, books and serials; process these abstracts into the system; and publish the abstracts together with appropriate indexing in the WRSIC twice-monthly journal, "Selected Water Resources Abstracts." The Center, in collaboration with the Smithsonian Science Information Exchange, will develop a comprehensive data base comprising descriptions of on-going water resources research projects. It is expected that the Center will respond to technical information requests of water program officials to: (a) generate and publish topical bibliographies rapidly and economically in water resources; (b) produce information in response to special requests of individuals and organizations; (c) provide information for literature reviews and state-of-the-art studies and if required publish these; and (d) continue an expansion program of assisting in establishing a network of geographically dispersed on-line retrieval terminals, in cooperation with other agencies to provide prompt responses to requests for technical information from the water resources community.

VI. Administration: Fiscal year 1977, $2,300,000; fiscal year 1978, $2,412,000; increase of $112,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$112,000	—	$112,000	63	Employee salaries & benefits, travel, rents, communication and utilities.

Program Synopsis

Administration funds the personnel and support work for all programs other than the Water Resources Scientific Information Center (WRSIC).

A. Administrative Support Costs

Fiscal year 1977, $2,300,000; fiscal year 1978, $2,412,000; increase of $112,000.

Proposal:

This activity will: (a) provide over-all direction to the total OWRT program; (b) provide programming, budgeting, evaluation and planning; (c) administer and refine the "Water Problem and Research Needs Identification Program;" (d) assist the Assistant Secretary in coordinating all water resources research program planning of the Department; (e) provide administrative support, procurement, personnel and office services; (f) grants and contracts; (g) evaluate approximately 1,000 new research proposals and execute some 300 new contracts and grants; (h) review and process an estimated 2,000 reports and documents developed under OWRT research and development programs; (i) provide program and research project guidance to several hundred existing and potential program participants; (j) coordinate programs with other agencies and within the Department; (k) conduct conferences, meetings and seminars as appropriate for effective program operations; (l) administer a technology assessment and research transfer program; and (m) support symposiums and use consultants to obtain overview advisory reports to keep program participants and managers informed about the status of and need for research and development in specific areas that relate to OWRT program goals, objectives and priorities, and to assure that research and development being considered for support is appropriate, does not duplicate other research and development programs, and focuses on the most urgent water problems.

Justification

The work load has increased each year while the Staff has been held at the same level. The work load placed on each employee has increased significantly. New functions have been assigned to OWRT resulting in work load increase, e.g., technology assessment and research transfer, inter-agency coordination, and coordination of Departmental water research planning.

Cost Factors

An increase of $27,000 is needed for employee salaries and benefits for in grade step increases for an FY 1978 total of $1,963,000. Employee travel has been reduced by $13,000 due to discontinued operation of the two test facilities for an FY 1978 travel budget of $120,000. Standard level user charges imposed by GSA have been increased by $38,000 for an FY 1978 total of $269,000. Other administrative costs, e.g., departmental assessments, equipment, supplies, printing, etc. have been increased by $60,000.

VII. Reimbursable Program: Fiscal year 1977, $1,300,000; fiscal year 1978, $750,000; decrease of $550,000.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$ 71,000	--	$354,000	8	Employee salaries & Expenses
(B)-$ 49,000	--	$ 54,000	--	Employee travel and transportation of things.
(C)-$480,000	--	$ 53,000	--	Reduction in rent, communications and utilities.
(D)-$ 41,000	--	$289,000		Other contractual services.
(E)-$ 51,000				Equipment.
-$550,000		$750,000		

Program Synopsis

The Office of Water Research and Technology has been requested to provide assistance to the State Department (AID) in their program to assist Israel in the construction of a desalting plant. OWRT has also been requested to participate with the Joint Commission in the Middle East to provide technical assistance to Saudi Arabia. Three permanent positions have been allocated for the Israel project and five for the Joint Commission work. These positions and associated costs are fully reimbursable and no funds are budgeted or requested for this purpose.

A. Employee Salaries and Benefits

Fiscal year 1977, $283,000; fiscal year 1978, $354,000; increase of $71,000.

Proposal

Reimbursements will be used to fund three positions to provide technical assistance to AID in support of this program to assist financially and technically in the construction of a desalting plant in Israel. An additional 5 positions allocated to the office to participate with the Joint Commission in the Middle East are unfilled as no specific agreements have been reached regarding the magnitude or nature of possible assistance.

Justification

Services have been requested by the State Department (AID) for the Israel desalting plant and by Treasury to participate with the Joint Commission - Middle East.

Cost Factors

The increase is needed to fund three full-time employees, one in Washington, D. C. and two in Israel. Two of the positions are currently filled and the third is in process. All three will be filled for all of FY 1978.

B. Employee Travel and Transportation of Household Effects

Fiscal year 1977, $103,000; fiscal year 1978, $54,000; decrease of $49,000.

Proposal

The amount requested is for employee travel and transportation of household effects to Israel. The transfer of two employees to Israel will be completed in FY 1977 and previous travel of all three employees to Israel for indoctrination and to make arrangements will be completed. The amount for FY 78 includes funds for employee travel only for conferences in Israel and in the United States.

Justification

Service is being provided or requested by State.

Cost Factors

The cost reduction is due to accomplishing the transfer of two employees to Israel during FY 1977.

C. Rent, Communications, and Utilities

Fiscal year 1977, $533,000; fiscal year 1978, $53,000; decrease of $480,000

Proposal

To fund cost of living quarters and provide utilities and communications for two employees in Israel.

Justification

Service is being provided or requested by State.

Cost Factors

Lease agreements for quarters are for several years and are to be paid in advance. These agreements will be reached during FY 1977. Amount requested for FY 78 is for utilities and communications.

D. Other Contractual Services

Fiscal year 1977, $330,000; fiscal year 1978, $289,000; decrease of $41,000.

Proposal

These services include U.S. Embassy support for two OWRT employees located in Israel, quarters maintenance, and contracts for technical tasks that cannot be performed by the two OWRT employees. There are also several jointly funded contracts between OWRT and other Federal agencies that will be completed during FY 1977.

Justification

Services are needed to support the design and construction of the Israel desalting plant and to support maintenance of two employees in Israel.

Cost Factors

First year costs (FY 1977) include additional work required for design review and preliminary construction work.

E. Equipment

Fiscal year 1977, $51,000; fiscal year 1978, $-0-; decrease of $51,000.

Proposal

The first year's equipment is required to furnish offices for two employees, e.g., desks, chairs, tables, files, typwriters, calculators, etc.

Justification

Equipment needs for two employees to be located in Israel. No additional equipment is needed during the second year.

Cost Factors

No additional equipment needed for FY 1978.

DEPARTMENT OF THE INTERIOR

OFFICE OF WATER RESEARCH AND TECHNOLOGY

SALARIES AND EXPENSES

APPROPRIATION LANGUAGE

For expenses necessary in carrying out the provisions of the Water Resources Research Act of 1964, as amended (42 U.S.C. 1961-1961c-7), $21,112,000 to remain available until expended.

DEPARTMENT OF THE INTERIOR
OFFICE OF WATER RESEARCH AND TECHNOLOGY
SALARIES AND EXPENSES

Program and Financing (in thousands of dollars)

Identification code 14-0115-0-1-301	1976 actual	Transition Quarter	1977 estimate	1978 estimate
Program by Activities				
1. Assistance to States for institutes.....	5,730	1,432	5,730	6,525
2. Matching grants to institutes.....	3,000	750	3,200	3,500
3. Water resources research	5,497	1,274	2,900	3,325
4. Technology development.	3,535	3,451	6,446	6,500
5. Scientific Information Center.....	986	318	1,100	1,100
6. Administration.....	2,274	591	2,303	2,412
Total Direct Program..	21,022	7,816	21,679	23,362
Reimbursed Program....	...	...	1,300	750
Total Program Costs Funded.....	...	...	22,979	24,112
Change in selected resources (undelivered orders)....	-2,011	-2,063	-2,149	-2,250
10.00 Total Obligations...	19,011	5,753	20,830	21,862
Financing:				
11.00 Offsetting collections from Federal funds.	...	...	-1,300	-750
21.00 Unobligated balance available, start of period.....	-2,730	-1,899	-500	...
24.00 Unobligated balance available, end of period.....	1,899	500	...	...
25.00 Unobligated balance lapsing.....	...	57	...	...
Budget Authority	18,180	4,411	19,030	21,112
Budget Authority:				
40.00 Appropriation.....	18,180	4,411	18,923	21,112
44.20 Supplemental now requested for civilian pay raises.....	...	...	107	...
Relation of Obligations to Outlays				
71.00 Obligations incurred, net.....	19,011	5,753	19,530	21,112
72.00 Obligated balance, start of period....	16,140	11,875	11,523	10,875
74.00 Obligated balance, end of period.....	-11,875	-11,523	-10,875	-13,275
90.00 Outlays, excluding pay raise supplement	23,276	6,105	20,075	18,708
91.20 Outlays from civilian pay raise supplement	...	...	103	4

DEPARTMENT OF THE INTERIOR
OFFICE OF WATER RESEARCH AND TECHNOLOGY
CONSOLIDATED WORKING FUND

Program and Financing (in thousands of dollars)

Identification code 14-3930-0-4-306	1976 actual	Transition Quarter	1977 estimate	1978 estimate
Program by Activities:				
Research and development (program costs, funded)..	381	526	81	...
Change in selected resources (undelivered orders).....	-15	-489	...	...
10.00 Total Obligations.....	366	37	81	...
Financing:				
11.00 Offsetting Collections from Federal funds..	-366	-25	-20	...
21.00 Unobligated balance available start of period (-).....	-73	-73	-61	...
24.00 Unobligated balance available end of period.....	73	61	...	...
Budget Authority....	...	...	...	...
Relation of obligations to outlays:				
71.00 Obligations incurred, net.....	...	12	61	...
72.00 Obligated balance, start of period...	9	447	86	...
74.00 Obligated balance, end of period....	-447	-86	...	...
90.00 Outlays.....	-438	373	147	...

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	1976 actual	Transition Quarter	1977 estimate	1978 estimate
Direct Obligation:				
Personnel compensation:				
11.1 Permanent position ...	1,690	400	1,925	1,951
11.3 Positions other than permanent.....	29	22	40	43
11.5 Other personnel compensation.....	24	3	10	10
Total personnel compensation.....	1,743	425	1,975	2,004
Personnel benefits:				
12.1 Civilian.....	148	39	176	176
13.0 Benefits for former personnel.....	1	7	...	...
21.0 Travel and transportation of persons	101	40	140	125
22.0 Transportation of things.....	17	1	30	30
23.1 Standard level user charge.....	188	47	220	258
23.2 Other rent, communications, and utilities	353	78	380	190
24.0 Printing and reproduction.....	96	24	90	100
25.0 Other services.....	10,513	3,928	9,879	11,189
26.0 Supplies and materials	107	15	110	115
31.0 Equipment	14	49	800	400
41.0 Grants, subsidies, and contributions.....	5,730	1,100	5,730	6,525
Total Direct Obligations	19,011	5,753	19,530	21,112

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	1976 actual	Transition Quarter	1977 estimate	1978 estimate
Reimbursable Obligations:				
Personnel compensation:				
11.1 Permanent positions...	...	...	190	259
11.3 Positions other than permanent.....	...	...	...	...
11.5 Other personnel compensation.....	...	...	22	23
11.8 Special personal services payments....	...	...	...	...
Total personnel compensation.....	...	...	212	282
Personnel benefits:				
12.1 Civilian.....	...	...	71	72
21.0 Travel and transporation of persons	...	...	83	54
22.0 Transportation of things.....	...	...	20	...
23.2 Other rent, communications, and utilities	...	...	533	53
25.0 Other services.....	...	...	330	289
31.0 Equipment.....	...	...	51	...
Total Reimbursable Obligations.....	...	...	1,300	750
99.0 Total Obligations....	19,011	5,753	20,830	21,862

DEPARTMENT OF THE INTERIOR
OFFICE OF WATER RESEARCH AND TECHNOLOGY
CONSOLIDATED WORKING FUND

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 14-3930-0-4-306	1976 actual	Transition Quarter	1977 estimate	1978 estimate
Personnel compensation:				
11.1 Permanent position ...	6	13	63	...
11.5 Other personnel compensation.....	...	...	...	...
Total personnel compensation.....	6	13	63	...
Personnel benefits:				
12.1 Civilian.....	1	2	6	...
21.0 Travel and transportation of persons	5	11	5	...
22.0 Transportation of things.....		9	7	...
23.2 Other rent, communications, and utilities		1	...	...
25.0 Other services.....	354	1	...	...
99.0 Total Obligations....	366	37	81	...

DEPARTMENT OF THE INTERIOR
OFFICE OF WATER RESEARCH AND TECHNOLOGY
SALARIES AND EXPENSES

PERSONNEL SUMMARY

Identification code 14-0115-0-1-301	1976 actual	Transition Quarter	1977 estimate	1978 estimate
Total number of permanent positions	78		78	78
Full-time equivalent of other positions	8		8	8
Average paid employment	69		75	75
Average GS grade	12.34		12.31	12.31
Average GS salary	$26,715		$28,253	$28,533

DEPARTMENT OF THE INTERIOR
OFFICE OF WATER RESEARCH AND TECHNOLOGY
SALARIES AND EXPENSES

DETAIL OF PERMANENT POSITIONS

Identification code 14-0115-0-1-301	1976 actual	1977 estimate	1978 estimate
GS-18	1	1	1
GS-17	2	1	1
GS-16	6	6	6
GS-15	23	24	24
GS-14	14	14	14
GS-13	3	3	3
GS-12	1	1	1
GS-11	2	2	2
GS-10	2	2	2
GS-9	4	4	4
GS-8	7	7	7
GS-7	8	8	8
GS-6	3	3	3
Subtotal	76	76	76
Grades established by authority in Section 625 (d)(1) of Foreign Assistance Act of 1961:			
FC-12 $33,740 to $39,600	2	2	2
Total permanent positions	78	78	78
Unfilled positions, end of year	-15	0	0
Total permanent employment, end of year	63	78	78

OFFICE OF WATER RESEARCH AND TECHNOLOGY

EXHIBIT A

Salaries and Expenses
Analysis by Activities

Activity	FY 1976 Amount Available	(TQ) Appropriation	(TQ) Prior Year Fund	(TQ) Amount Available	(Fiscal Year 1977) Appropriations	(Fiscal Year 1977) Prior Year Funds	(Fiscal Year 1977) Amount Available
1. Assistance to State Water Research Institutes	5,730,000	1,400,000		1,400,000	5,730,000	--	5,730,000
2. Matching Grants to Water Research Institutes	3,000,000	750,000		750,000	3,200,000	--	3,200,000
3. Water Resources Research	4,763,000	1,073,000	809,704	1,882,704	2,000,000	--	2,000,000
4. Technology Development	4,219,871	347,000	959,753	1,306,753	4,700,000	499,731	5,199,731
5. Scientific Information Center	986,000	245,000	73,010	318,010	1,100,000	--	1,100,000
6. Administration	2,211,000	596,000		596,000	2,193,000	--	2,193,000
Supplemental for civilian pay raises	--	--	--	--	107,000	--	107,000
Unobligated balance lapsing			57,089	57,089			
Total	20,909,871	4,411,000	1,899,556	6,310,556	19,030,000	499,731	19,529,731

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Inc.(+) or Dec.(-) 1978 Compared with FY 1977	Page Reference
1. Assistance to State Water Research Institutes	5,730,000	5,730,000	6,525,000	+795,000	8
2. Matching Grants to Water Research Institutes	3,000,000	3,200,000	3,500,000	+300,000	10
3. Water Resources Research	4,763,000	2,000,000	3,775,000	+1,775,000	12
4. Technology Development	4,219,871	5,199,731	3,800,000	-1,399,731	15
5. Scientific Information Center	986,000	1,100,000	1,100,000	--	20
6. Administration (including supplemental for civilian pay raises)	2,211,000	2,300,000 (107,000)	2,412,000	+112,000	21
Total	20,909,871	19,529,731	21,112,000	+1,582,269	

DEPARTMENT OF THE INTERIOR
Office of Water Research and Technology

EXHIBIT B

Salaries and Expenses

Analysis by Subactivity

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Auth. Perm. Pos.	1978 Estimate	Auth. Perm. Pos.	Increase or Decrease 1978 Compared with 1977 Dollars	Pos.
I. Assistance to State Water Research Institutes	5,730,000	5,730,000	--	6,525,000	--	+795,000	--
II. Matching Grants to Water Research Institutes	3,000,000	3,200,000	--	3,500,000	--	+300,000	--
III. Water Resources Research							
A. Water Conversion Research	1,410,000	800,000	--	1,200,000	--	+400,000	--
B. Water Resources Research Planning & Management	1,400,000	--	--	1,285,000	--	+1,285,000	--
C. Water Use Efficiency	275,000	--	--	--	--	--	--
D. Water Related Problems - Aiding Indians to achieve Self Determination	200,000	--	--	--	--	--	--
E. Protection of the Water & Water-Related Environ.	700,000	--	--	--	--	--	--
F. Solving of Energy-Related Water Problems	778,000	--	--	--	--	--	--
G. Water Reuse Research and Planning	--	1,200,000	--	1,290,000	--	+90,000	--
Total	4,763,000	2,000,000	--	3,775,000	--	+1,775,000	--
IV. Technology Development							
A. Brackish Water Membrane Development	2,229,871	1,249,731	--	1,200,000	--	-49,731	--
B. Sea Water Membrane Development	500,000	1,000,000	--	1,000,000	--	--	--
C. Water Reuse Technology Development	--	500,000	--	800,000	--	+300,000	--
D. Test Facilities	750,000	700,000	--	--	--	-700,000	--
E. Freezing Process Development	400,000	850,000	--	--	--	-850,000	--
F. Technology Assess. & Research Transfer	340,000	300,000	--	600,000	--	+300,000	--
G. High Temperature ED Development	--	600,000	--	--	--	-600,000	--
H. Other Water Technologies	--	--	--	200,000	--	+200,000	--
Total	4,219,871	5,199,731	--	3,800,000	--	-1,399,731	--
V. Water Resources Scientific Information Center	986,000	1,100,000	7	1,100,000	7	--	--
VI. Administration	2,211,000	2,300,000	63	2,412,000	63	+112,000	--
Total Salaries & Expenses	20,909,871	19,529,731	70	21,112,000	70	1,582,269	--

DEPARTMENT OF THE INTERIOR
OFFICE OF WATER RESEARCH & TECHNOLOGY
Analysis by Program
(In Thousands of $)

EXHIBIT C

Program/Activity/Subactivity	Available FY 77	Estimate FY 78 WRR	Estimate FY 78 SWC	Increase + or Decrease -
WATER RESOURCES RESEARCH				
1. Assistance to State Water Research Institutes	5,730	6,525		+795
2. Matching Grants to Water Research Institutes	3,200	3,500		+300
3. Water Resources Research	--	2,575		+2,575
a. Water Resources Planning and Management		1,285		+1,285
b. Aiding Indians to achieve Self-Determination				
c. Protection of the Water & Water-Related Environ.				
d. Solving of Energy-Related Water Problems				
e. Water Reuse Research and Planning		1,290		+1,290
4. Technology Development		800		+800
a. Technology Assessment and Research Transfer		400		+400
b. Water Reuse		200		+200
c. Other Water Technologies		200		+200
5. Scientific Information Center	1,100	1,100		--
6. Administration	1,427	1,587		+160
Sub Total	11,457	16,087		+4,630
SALINE WATER CONVERSION				
3. Water Resources Research	2,000		1,200	-800
a. Brackish Water Research			600	+600
b. Sea Water Research	800		600	-200
c. Water Reuse Research and Planning	1,200		--	-1,200
4. Technology Development	4,700		3,000	-1,700
a. Brackish Water Membrane	750		1,200	+450
b. Sea Water Membrane	1,000		1,000	--
c. Water Reuse	500		600	+100
d. Roswell Test Facility	400		--	-400
e. Wrightsville Beach Test Facility	300		--	-300
f. Freezing	850		--	-850
g. Technology Assessment and Research Transfer	300		200	-100
h. High Temperature ED	600		--	-600
6. Administration	873		825	-48
Sub Total	7,573		5,025	-2,548
Grand Total	19,030	16,087	5,025	+2,082

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

BUREAU OF OUTDOOR RECREATION

DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION

The Bureau of Outdoor Recreation serves as the focal point in the Federal Government for the many activities related to outdoor recreation. In addition, liaison is maintained with the State and the local governments and the private sector with a view to developing and executing a nationwide coordinated effort in the provision of quality outdoor recreation opportunities to all Americans. The Bureau is responsible also for the conveyance of surplus Federal real property for park and recreation purposes to State and local governments.

The Bureau also administers a program of matching grants to States for recreation planning, for acquisition of land and water areas, and for the development of such areas. This program and land purchases in nationally important areas by certain Federal agencies are financed from the Land and Water Conservation Fund.

In the Bureau's request for Fiscal Year 1977, Salaries and Expenses activities are increased by $668,000. This increase is for completion of the acquisition of the data base needed for the 1978 revision of the Nationwide Outdoor Recreation Plan; acceleration of wild and scenic river studies now underway to meet the Congressionally specified time periods; additional water resource studies; expanded cooperation with the Department of Defense for development and management of underutilized lands by State and local governments; publication of Outdoor Recreation Programs; and increased GSA space costs and employee compensation payments.

The budget for the Land and Water Conservation Fund includes full funding of $600.0 million in appropriations. Administrative Expenses have been increased $2,305,000 for increased workload directed to the management of the expanded Fund level from $300 to $600 million.

DEPARTMENT OF THE INTERIOR

Bureau of Outdoor Recreation

Budget Authority
(in thousands of dollars)

Account & Functional Code		1976 Actual	1977 Estimate	1978 Estimate
Federal Funds				
General & Special Funds:				
Salaries & Expenses	303	5,889	5,961	6,857
Supplementals		--	1,228 a/	--
Land & Water Conservation Fund (indefinite special fund)	303	316,986	397,056	600,000
Supplementals		--	160,743 b/	--
Contract Authority (permanent)		30,000	30,000	30,000
Total Federal & Trust Funds		352,875	594,988	636,857

a/ Now requested under existing legislation; includes $228 thousand for increased pay costs.

b/ Now requested, additional authorizing legislation required; includes $20 million transferred from Bureau of Land Management, "Management of lands and resources," to return a temporary transfer made in the Transition Quarter.

BUREAU OF OUTDOOR RECREATION

Salaries and Expenses

Appropriation, 1976	$5,737,000	
Pay cost supplemental	152,000	
Total available, 1976		$5,889,000
Appropriation, 1977	$5,961,000	
Pay cost supplemental	228,000	
Total available, 1977		$6,189,000

SUMMARY OF INCREASES AND DECREASES, 1978

	Base for 1978	Increase 1978	
Planning and research			
Nationwide planning	$ 33,000		
Five-year revision of Plan		100,000	
Water resources and resource area studies	3,068,000		
Additional water resource studies		100,000	
Accelerate wild and scenic river studies		244,000	
Research and education	113,000		
GSA space costs		56,000	
Employee compensation payments		24,000	$524,000
Federal coordination			
Federal coordination	1,561,000		
Expanded cooperation with Department of Defense		75,000	
Publication of Outdoor Recreation Programs		25,000	
GSA space costs		27,000	127,000
Technical assistance			
Technical assistance	1,414,000		
GSA space costs		17,000	17,000
Total, net increase, 1978			668,000
Budget Estimate, 1978			$6,857,000

Salaries and Expenses

Analysis by Activities

Activity	FY 1976 Amount Available	(Direct Appropriation) Fiscal Year 1977 Total Appropriation	Pay Cost Supplemental	Amount Available
1. Planning and research	$2,872,544	$3,096,000	118	$3,214,000
2. Federal coordination	1,395,396	1,503,000	58	1,561,000
3. Technical assistance	1,265,723	1,362,000	52	1,414,000
Unobligated balance	355,337	--	--	--
Totals	5,889,000	5,961,000	228	6,189,000

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	(Direct Appropriations) Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
1. Planning and research	$2,872,544	$3,214,000	$3,738,000	$+524,000	6
2. Federal coordination	1,395,396	1,561,000	1,688,000	+127,000	18
3. Technical assistance	1,265,723	1,414,000	1,431,000	+17,000	26
Unobligated balance	355,337	--	--	--	
Totals	5,889,000	6,189,000	6,857,000	+668,000	

Salaries and Expenses

Analysis of Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Perm. Pos.	1978 Estimate	Perm. Pos.	Increase or Decrease (-) 1978 compared with 1977 Dollars	Pos.
1. Planning and Research							
A. Nationwide Planning	$ 28,190	$ 33,000	1	$ 133,000	1	$+100,000	--
B. Water resources and resource area studies	2,743,810	3,068,000	103	3,412,000	110	+344,000	+7
C. Research and education	100,544	113,000	4	113,000	4	--	--
D. GSA space costs	--	--	--	56,000	--	+56,000	--
E. Employee compensation payments	--	--	--	24,000		+24,000	--
Total	2,872,544	3,214,000	108	3,738,000	115	+524,000	+7
2. Federal Coordination							
A. Federal Coordination	1,395,396	1,561,000	60	1,661,000	62	+100,000	+2
B. GSA space costs	--	--	--	27,000	--	+27,000	--
Total	1,395,396	1,561,000	60	1,688,000	62	+127,000	+2
3. Technical Assistance							
A. Technical Assistance	1,265,723	1,414,000	53	1,414,000	53	--	--
B. GSA space costs	--	--	--	17,000	--	+17,000	--
Total	1,265,723	1,414,000	53	1,431,000	53	+17,000	--
Unobligated balance	355,337	--	--	--	--	--	--
Total, Salaries & Expenses	5,889,000	6,189,000	221	6,857,000	230	+668,000	+9

1. PLANNING AND RESEARCH

1. Planning and Research: Fiscal year 1977, $3,214,000; fiscal year 1978, $3,738,000; increase of $524,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$100,000	--	$ 133,000	1	Nationwide Planning - 5-year revision of Plan.
(B)+ 344,000	+7	3,412,000	110	Water Resources and Resource Area Studies Additional Water resource studies/ Accelerate Wild and Scenic River studies.
(C)+ 0	--	113,000	4	Research and Education - No change.
(D)+ 56,000		56,000		GSA space costs.
(E)+ 24,000	--	24,000		Employee compensation payments.
+ 524,000	+7	3,738,000	115	

Program Synopsis

Funds are provided for: (a) Nationwide Outdoor Recreation planning to assess the current supply of outdoor recreation resources and to assess relative priorities for allocating available public resources; (b) studies and evaluations of the recreation impacts of water development proposals of Federal agencies and those requiring a Federal action, license or permits; and studies of potential wild and scenic rivers, national trails, and wilderness; and (c) review and dissemination of research on factors which influence outdoor recreation demands.

Increased funds will provide for: revision of the Nationwide Plan required every five years; additional water resources studies; and acceleration of Wild and Scenic River studies.

A. Nationwide Planning

Fiscal year 1977, $33,000; fiscal year 1978, $133,000; increase of $100,000.

Major Program Changes

(1) 5-year revision of Plan +$100,000; total $100,000
+ 0 positions; total 0 positions.

Proposal: The requested increase will permit the Bureau to complete its evaluation of the Federal role in meeting recreation needs in order to produce the 1978 revision of the Nationwide Plan for transmittal by January 1, 1979, as required under P.L. 88-29. Specific objectives for FY 1978 are: (a) To develop alternative policies and recommendations for the 1978 Plan; (b) to complete the program of public participation and input to the 1978 Plan; (c) to coordinate the selection of Plan policies and recommended

actions with Federal agencies, the States, and others; and (d) to complete Plan layout and printing.

Justification: The initial Plan was transmitted to the President and the Congress in November 1973. A revised Plan must be transmitted by January 1, 1979, under P.L. 88-29. In order to meet this deadline, the Plan must be formulated and completed in FY 1978.

Cost Factors: Contractual services.

Program Description: P.L. 88-29 requires the Secretary of the Interior to formulate and maintain a Comprehensive Nationwide Outdoor Recreation Plan and to transmit the initial Plan and revisions of the Plan at five year intervals to the President for transmittal to the Congress.

B. Water Resources and Resource Area Studies

Fiscal year 1977, $3,068,000; fiscal year 1978, $3,412,000; increase of $344,000.

Major Program Changes

(1)	Additional water resource studies	+$100,000; total $100,000 + 0 positions; total 0 positions.

Proposal. The increase would be used to participate in the revisions of State water quality standards, in areawide waste treatment management planning under section 208 of the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500), and in the Corps of Engineers Metro Studies Program.

Justification. The improvement of water quality can provide for significant new recreation use and substantially improve associated environmental values. Area-wide planning under these programs affords an excellent opportunity to assist in meeting leisure time needs, particularly in urban population centers. The Bureau will coordinate Federal, State and local agency recreation actions in conjunction with pollution control programs. With judicious planning, many recreational and open space sites can be acquired and developed by local initiatives prior to the escalation of real estate prices that are expected to accompany the cleaning up of polluted rivers, lakes and estuaries.

There will be no increased paperwork on the private sector, State and local governments. The paperwork created by the studies will be mainly that of written reports and environmental impact statements for the studies.

Cost Factors. Contractual services.

(2)	Accelerate Wild and Scenic River Studies	+$244,000; total $244,000 + 7 positions; total 7 positions

Proposal. The increase would be used for studies and other activities under the Wild and Scenic Rivers Act (P.L. 90-542, as amended), Naval Petroleum Reserves Production Act of 1976 (P.L. 94-258), Hells Canyon National Recreation Area (P.L. 94-199) and the Alaska Native Claims Settlement Act (P.L. 92-203), as follows:

To permit substantial progress toward completion of all of the river studies assigned to the Bureau which are authorized by P.L. 90-542, as amended, and the study of the Snake and Housatonic Rivers authorized by P.L. 94-199 and P.L. 94-486, respectively; to expedite completion of the Bureau's efforts to identify the components which should comprise the scope of the National Wild and Scenic Rivers System so that the results may be presented as one of the major thematic studies in the forthcoming Nationwide Outdoor Recreation

Plan; and to facilitate the Bureau's participation in Departmental activities associated with the Naval Petroleum Reserves Production Act and the Alaska Native Claims Settlement Act.

Justification. Section 5(a) of P.L. 90-542 designated 27 rivers for study as potential wild and scenic rivers with the studies to be completed by October 2, 1978. Responsibility for 18 of these studies was delegated to the Bureau. P.L. 93-621 amended section 5(a) by adding an additional 29 rivers for study. Responsibility for 13 of these has been delegated to the Bureau and three jointly to the Bureau and the Forest Service. Studies of the rivers designated by P.L. 93-621 must be completed by October 2, 1979. Section 5(a) of P.L. 94-199 designated a segment of the Snake River, Washington, Oregon and Idaho for study. P.L. 94-486 designated a segment of the Housatonic River in Connecticut for study. The studies of the last two rivers must be completed by September 30, 1979 and September 30, 1980, respectively, as the protection afforded a study river by P.L. 90-542, as amended, expires.

The studies of the rivers have become considerably more complex as a result of the need to consider the requirements of the National Environmental Policy Act of 1969 (including the preparation of environmental impact statements), various State and Federal water quality acts, the Principles and Standards for Planning for Water and Related Land Resources developed by the Water Resources Council, and other legislation. This, together with the efforts to solicit required State participation in the acquisition, development and administration of all or portions of the proposals slows study progress. Many of the river studies involve potential power projects or water which might be used in the extraction of oil from shale and in coal mining. Both relate to the energy needs of the Nation and must be fully evaluated so that the Administration and Congress will be fully aware of the trade-offs to be evaluated when considering either water resource projects or wild river proposals.

P.L. 90-542 did not define the national system it authorized. The system exists open-ended as to its extent, geographic distribution, and balance of types of rivers. As one of the Federal actions to be taken to increase the availability of recreation resources, Outdoor Recreation - A Legacy for America provides for completion of a program to identify those areas needed to round out the Federal recreation estate. Such action would identify for the Administration and Congress the scope of the minimum system to be established. In the case of the National Wild and Scenic Rivers System it would have the additional benefit of identifying those rivers which must be considered under the provisions of 5(d) of P.L. 90-542, as amended. Conversely, an adequate assessment of all rivers would also identify those rivers which do not have the qualities requiring consideration of their wild and scenic values by water resource planning agencies.

The rate of urbanization and increasing development of second-home communities associated with recreation areas is putting an increasing pressure on the remaining natural recreation resources. The situation is even more evident than that which existed at the time the legislation was enacted and Congress expressed its interest in preserving significant river resources. Therefore, it becomes imperative not only to adhere to the study schedule but also to complete the studies as rapidly as possible.

A survey of the rivers which lie wholly or in part within Naval Petroleum Reserve No. 4 to determine whether they should be considered as potential candidates for the National Wild and Scenic Rivers System will be part of the Department's studies under the provisions of the Naval Petroleum Reserves Production Act of 1976.

The activities associated with the withdrawal of lands for the several purposes identified in the Alaska Native Claims Settlement Act are increasing as the target date for completion of all withdrawals approaches. As might be expected, conflicts between claims are arising and the number of requests for entry permits for various purposes are increasing requiring review to determine their potential impact on proposed wild and scenic rivers and other recreation resource areas.

There will be no increased paperwork required on the part of the private sector, State or local governments. The paperwork created by these studies will be mainly that of written reports or environmental impact statements for the studies. However, the public and State and local agencies will be afforded the opportunity to comment on the reports and environmental statements and on the rivers being considered as components of the wild and scenic rivers system.

Cost Factors. Seven permanent positions at an average annual cost of $20,600 each, $144,000; materials, equipment, travel and other costs related to these positions, $39,000; contractual services, $61,000; total, $244,000.

Program Description.

This sub-activity may be further divided:

Program	FY 1977 Estimate	FY 1978 Estimate	Change
Water Resource Studies	$1,527,000	$1,627,000	$100,000
Resource Area Studies	1,541,000	1,785,000	+244,000
	$3,068,000	$3,412,000	$+344,000

Water Resource Studies

The Bureau's activities in the field of water resource planning stem primarily from the Bureau's Organic Act (P.L. 88-29), the L&WCF Act, as amended (P.L. 88-578), the Federal Water Project Recreation Act of 1965 (P.L. 89-72), and the National Environmental Policy Act of 1969 (P.L. 91-190). Planning assistance and coordination will continue in three major areas:

Investigation of Federal Water Developments--The Bureau participates in the recreation aspects of selected Bureau of Reclamation, Corps of Engineers and other Federal water resource development studies. These studies relate proposed water development projects to future public recreation needs and ascertain the impacts on outdoor recreation, natural and scenic resources, and related environmental values.

The Bureau's study objectives are to provide assistance to construction agencies in the formulation of project plans and to coordinate Federal and State outdoor recreation programs, giving full consideration to the public needs and environmental values identified in the comprehensive outdoor recreation plans of the affected States. Where projects create the potential for ancillary recreation development, the Bureau encourages State and local governments to utilize L&WCF assistance to enhance recreation opportunities.

The Bureau also will participate in new studies to be selected from the Environmental Protection Agency program under section 208 of the Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500. This section of the Act provides for the development and implementation of waste treatment management plans and practices on an areawide basis and encourages the inclusion of open space and recreational considerations in such management. The Bureau's objective is to coordinate recreation plans and programs of the

various public and private interests involved in the section 208 program.

Bureau participation will focus on the compatibility of providing for adequate stream flows for instream recreation use, increased recreation opportunities in urban centers, and recreation use of the flood plains with measures for water quality improvement.

Review of Water Development Proposals and Environmental Impact Statements--The Bureau reviews reports by the Corps of Engineers, Bureau of Reclamation, other governmental agencies, and the private sector on water resource development proposals which require a Federal action, permit or license.

The Bureau's review of Federal project reports determines whether adequate consideration has been given to the preservation of natural, scenic, and recreation resources and related envornmental values and to the recreation potential of the project. The objectives are to advise Federal agencies on the adequacy of their plans for meeting public needs and to assure coordination of recreation programs of Federal, State and local governments.

The Bureau takes appropriate action to resolve conflicts between proposed water development and existing recreation areas which were established with L&WCF monies in accordance with section 6(f) of the L&WCF Act, as amended.

A determination is made as to the extent to which proposed recreation and fish and wildlife development conform to and are in accord with State comprehensive outdoor recreation plans. The findings of these reviews are provided to the Congress in accordance with section 6(a) of the Federal Water Project Recreation Act, as amended.

Applications for Corps of Engineers permits for dredging, filling, excavation, or other related work in navigable waters are reviewed by the Bureau. Substantive comments are provided on selected permit applications where it is believed significant recreational and environmental values would be adversely affected.

The private sector can provide significant public recreation opportunities in connection with the development and operation of Federally licensed hydroelectric and nuclear power plants. The Bureau reviews development proposals and provides assistance to the utility interests in formulating recreation plans for projects. The Bureau also reviews applications for license and recommends measures to the Federal regulatory agencies for inclusion in licenses to make recreation resources available for public use and to coordinate private sector and governmental recreation programs.

The Bureau reviews environmental impact statements prepared for proposed Federal water resource developments and license and permit actions. 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.

Water and Land Use Planning--Comprehensive water and related resources planning for the Nation is a State-Federal program coordinated by the Water Resources Council. Field studies are scheduled in accordance with centralized funding which provides for reimbursable financing of some of the work. The Bureau conducts regional studies of outdoor recreation potentials and environmental values, giving full consideration to alternative or competing uses of the resources. A determination is made of the outdoor recreation needs which can be met through conservation, development and use of water and related land resources. The Bureau assists in plan formulation and prepares reports for river basin commissions or other State-Federal interagency groups having primary responsibility for preparing a comprehensive plan. The results of these studies provide an important source of information for State recreation planning purposes. Through these planning efforts, the Bureau seeks to provide a

consistent recreation data base and appropriate methodologies for projecting recreation use and determining future needs. The Bureau's objectives are to seek equal consideration of all feasible conservation and development means for meeting recreation needs and to coordinate recreation programs of the public and private sector.

Resource Area Studies

The Bureau's activities in this area are under authorities delegated by the Bureau's Organic Act (P.L. 88-29), the Wild and Scenic Rivers Act (P.L. 90-542, as amended), the National Trails System Act (P.L. 90-543, as amended) the Wilderness Act (P.L. 88-577), the Alaska Native Claims Settlement Act (P.L. 92-203), the Land & Water Conservation Fund Act of 1965 (P.L. 88-578, as amended), the National Environmental Policy Act of 1969 (P.L. 91-190), the Naval Petroleum Reserves Production Act of 1976 (P.L. 94-258), the Hells Canyon National Recreation Area Act (P.L. 94-199) and P.L. 94-486 amending the Wild and Scenic Rivers Act by designating the Housatonic River for study and other purposes.

Wild and Scenic Rivers System--Section 5(a) of the Wild and Scenic Rivers Act designated 27 rivers for study before October 2, 1978, to determine if they should be included in the National System. P.L. 93-621 amended section 5(a) of the Wild and Scenic Rivers Act by adding 29 additional rivers to the study list. Responsibility for study of 13 of these additional rivers has been assigned to the Bureau, thirteen to the Forest Service and three are to be joint studies. Two joint studies will be continued in FY 1978 as will eight of the Bureau studies identified in P.L. 93-621. The study of the Snake River authorized by P.L. 94-199 and the Housatonic River authorized by P.L. 94-486 also will be continued in FY 1978. Studies of ten rivers will be completed in FY 1978. The Bureau will also participate in the river studies led by the Forest Service.

Bruneau River, Idaho. View downstream. The Bruneau River is being studied by a BOR led seven-member Federal-State team from the Idaho Governor's Office, the Idaho Departments of Fish and Game, Water Resources and Parks and Recreation, the Bureau of Land Management, and the U.S. Forest Service.

BOR-11

83-561 O - 77 - 17

The Bureau will accelerate its efforts to identify the components which should comprise the National Wild and Scenic Rivers System. A good deal of volunteer effort has been utilized in developing the evaluation system and applying it to rivers throughout the country. The identification must be completed early in FY 1978 in order that it may be incorporated into the thematic study section of the forthcoming Nationwide Outdoor Recreation Plan.

The Bureau will assist in the studies of Naval Petroleum Reserve No. 4 (Pet 4) mandated by P.L. 94-258 by surveying the rivers which lie wholly or in part within Pet 4 to determine whether they should be considered as potential candidates for the National Wild and Scenic Rivers System.

Technical assistance will be provided to State and local governments interested in developing wild rivers systems or in measures to protect the values associated with rivers in which they have an interest. Emphasis will be placed on any request for assistance from Alaskan Native, regional or State organizations interested in protecting rivers on lands which they are selecting under the provisions of the Alaska Native Claims Settlement Act.

National Trails System--Section 5(c) of the National Trails System Act designated 14 trail routes for study as potential candidates for inclusion in the National Trails System as National Scenic Trails. Funds requested would permit completion of the 14 trail routes initially designated for study.

With the initial studies nearing completion, the funds requested will permit the Bureau to shift emphasis to two other trail programs. First, building on work already begun, the Bureau will continue the effort to give definition to the magnitude of the National Trails System. The goal of this program is to provide for the consideration of the Administration and the Congress a set of parameters for the National System--extent, geographical distribution and balance of types of trails. Included will be an identification of trail routes to be considered for study as National Scenic Trail additions to the system.

The second program will be directed toward providing trail planning assistance to Federal agencies, State and local governments and the private sector as a means of increasing the availability of trail opportunities. Emphasis will be on providing for a variety of trail experiences close to where people live. As a means of stimulating this program, the Bureau will continue its stepped-up effort to have suitable trails throughout the country designated as National Recreation Trails. Pursuant to National Trails System Act of 1968, these trails become components of the National Trails System and serve as examples of the kinds of trail opportunities which can be made available.

23-mile National Recreation Trail for hiking, biking and snowmobiling constructed on abandoned railroad right-of-way by Wisconsin Dept. of Natural Resources.

In both programs, the Bureau will attempt to see that trail opportunities are established at minimum expense, through the use of lands already in public ownership, abandoned transportation or utility rights-of-way and by less than fee acquisition.

For designated national scenic trails (such as the Appalachian and Pacific Crest), the Bureau will continue to assist the administering agencies in implementing cooperative programs designed to assure acquisition and protection of the trails in furtherance of the purposes of the National Trails System Act.

Other Studies--At the request of Congress or the Secretary, the Bureau undertakes surveys of potential recreation resource areas to determine whether more detailed studies are warranted.

National Wilderness System--The Bureau will continue its review of Fish and Wildlife Service, National Park Service, and Forest Service wilderness proposals under authorities delegated by the Secretary of the Interior to determine the extent to which they provide needed wilderness-type recreation experience to meet provisions of the Wilderness Act (P.L. 88-577).

Highlights of Recent Accomplishments

Resource Area Studies:

--Studies completed on the Bruneau (Idaho), Delaware (Pennsylvania and New York), Missouri (Montana), Obed (Tennessee), Penobscot (Maine), Rio Grande (Texas), and Dolores 1/ (Colorado) Rivers, New River Gorge (West Virginia), and the Kittanning Path, Continental Divide, North Country, Lewis and Clark, Oregon and Santa Fe Trails.

-- Preparation and transmission of Final Environmental Impact Statements to the Council on Environmental Quality on the Delaware (Pennsylvania and New York), New (North Carolina), Rio Grande (Texas) Rivers, New River Gorge (West Virginia), and North Country Trail.

--Completion and transmittal to the President and the Congress of the Final Reports on the Mormon Battalion Trail and the Long Trail.

--Distribution of Final Report on the New River Gorge, West Virginia.

--Designation of Little Beaver Creek, Ohio, and New River, North Carolina as components of the National Wild and Scenic Rivers System administered by the States of Ohio and North Carolina, respectively.

--Initiation of efforts to define the wild and scenic rivers system.

--Preparation and circulation of draft reports for formal review on the Penobscot (Maine) and Gasconade (Missouri) Rivers and Kittanning Path, Lewis and Clark and Santa Fe Trails.

--Addition of 32 National Recreation Trails to the National Trails System, bringing the total to 95 as of September 14, 1976.

--Preparation and transmittal of Draft Environmental Impact Statements to the Council on Environmental Quality on the Bruneau (Idaho), Gasconade (Missouri), New (North Carolina), Missouri (Montana), Penobscot (Maine), Rio Grande (Texas), and Dolores 1/ (Colorado) Rivers, New River Gorge (West Virginia), and Lewis and Clark and Oregon Trails.

1/ Joint study with the Forest Service.

--Preparation and circulation of Preliminary Report and Preliminary Environmental Impact Statements on Pine Creek (Pennsylvania) for informal review.

--Circulation of Preliminary Reports and Preliminary Environmental Impact Statements on the Illinois River (Oregon) and St. Joe River (Idaho) for informal review. (The Forest Service, Department of Agriculture, has leadership responsibility on these two studies.)

--Preparation and circulation for informal review, reports on the Natchez Trace, Oregon, El Camino Real, and Mormon Trails.

--Preparation and presentation to State and Departmental officials of a resource analysis of the New Jersey Pine Barrens. As a result, a joint State-Federal task force has been formed to develop methodologies to protect and preserve the Barrens.

--Completion of guidelines for implementing the Principles and Standards or for planning Water and Related Land Resources in studies of wild, scenic, and recreational river and national recreation areas.

--Participation in, and co-sponsorship of, a very successful National Trails Symposium at Land Between the Lakes, Kentucky.

--Completion of a survey of the Green Bay Islands, Michigan and Wisconsin and transmittal of letter report to Senator Gaylord Nelson.

--Completion of a special resource study of the Kickapoo River Valley, Wisconsin and transmittal of a report to Senator Gaylord Nelson.

--Completion of a special analysis of the Germany Valley Karst, West Virginia area and report to Senator Robert Byrd.

--Completion of an assessment of the recreation resources of the Lower Meramec River, Missouri.

--Participated in the Northeast Regional States Scenic Rivers Planning Workshop at Rexford, Pennsylvania.

Water Resources--The Bureau participated in 45 Federal water development studies undertaken by the Bureau of Reclamation and the Corps of Engineers during the past year. These agencies were furnished planning aid reports or information on public needs for outdoor recreation, the potentials of proposed development for meeting these needs, and the impacts which could be anticipated on recreation resources and related environmental values.

An example of this work is Bureau participation in the Corps of Engineers Omaha-Council Bluffs Metropolitan Area Study. The study provided an opportunity for an overall analyses of leisure time problems, needs and opportunities for the metropolitan area. One result of the Bureau's involvement was a commitment by a landowner and the Gifford Foundation to donate a majority of a 1,714-acre tract, located on a horseshoe bend in the Missouri River, to the State of Nebraska. This tract, known as the Gifford property, is valued at over two million dollars and is adjacent to the nationally known Fontenelle Nature Center.

In its studies of the Tualatin 2nd Phase Project of the Bureau of Reclamation, the Bureau developed three conceptual recreation plans for the 2,000 acre multi-purpose reservoir, with a total of 600 acres being proposed for recreation facility development adjacent to the reservoir and for access

development along the Tualatin River. The project would help meet recreation needs of the Portland Metropolitan area and would provide opportunities for camping, picnicking, hiking, boating, water skiing, fishing, swimming, horseback riding and sightseeing.

The Bureau has worked closely with the Corps of Engineers on the Crabtree Creek Flood Control Project. The Bureau developed the recreation component for the overall study as well as a conceptual plan for use of the flood plain. Bureau input led the City of Raleigh, North Carolina to assign first priority to land acquisition to Crabtree Creek flood plain to realize the complementary use of the area for open space and recreation pursuits and of providing a non-structural solution for flood control.

Through Bureau initiative, several Texas Metropolitan River authorities recently met with private commercial recreation operators. The meeting offered an exchange of information and ideas and held the promise for future recreation facility development at several public water resource projects located near Texas urban areas.

In reviewing water project reports, the Bureau consults with concerned State and Federal agencies and private interests. Full consideration is given to the Statewide Comprehensive Outdoor Recreation Plans in determining the adequacy and appropriateness of proposed recreation developments. Comments were prepared on 850 proposals and environmental impact statements for water developments during the past year. Of these, 410 were Federal agency water project reports and statements; 245 concerned applications for Corps of Engineers permits for work in navigable waters; 55 were applications related to hydroelectric power developments by private interests seeking a license from the Federal Power Commission; and 140 were reports by various agencies which involved Federal actions.

Our review and planning assistance role includes Bureau participation in studies of the recreational aspects of hydroelectric projects. As a result of one study of Lake Mitchell Project in Alabama, the Federal Power Commission required the Alabama Power Company to have a comprehensive recreation master plan for the 147 miles of shoreline of the 5,000 acre lake project. The Georgia Power Company requested the Bureau to lead a study of Tallulah Gorge to determine what additional scenic, historic and recreation lands should be included in the project boundaries of the North Georgia Project. This study is expected to recommend the protection of significant recreation resources for public use.

The Bureau provided planning assistance to 40 utility companies to assist them in developing adequate recreation plans for projects subject to licensing by the Federal Power Commission. Illustrative of the Bureau's efforts in this area is planning assistance which provided for the development of a 22 acre park along the Escanaba River, Michigan by the Escanaba Paper Company. The Company will develop and lease the park to Marquette County and provide monies for operation and maintenance. The park will provide one half mile frontage along the river and will complement an existing boat launching facility operated by the State.

The Bureau has participated in the comprehensive water and related land resources studies program under the sponsorship of the Water Resources Council since its inception. The Bureau has assisted in the preparation of recreation plans for 42 major river basins. Of these, 14 were Level A framework plans and 28 were the Level B detailed plans for regions or river basins. During the past year, the Bureau was involved in six Level B studies.

The Bureau jointly led, with the Twin Cities Metropolitan Council, a Federal-State Task Group in developing a plan for public access to and surface water control of over 200 lakes in the seven county area of the Minneapolis-St. Paul Metropolitan Level B Study. The Twin Cities Metropolitan Council, which also reviews Land and Water Conservation Fund proposals, provides a mechanism for coordination and implementation of recreation projects with water development. The State of Minnesota is currently examining procedures utilized by the Task Group for application in the Statewide programs. Development of a uniform, coordinated data base for future recreation planning by units of government represented on the Upper Mississippi River Basin Commission, was a secondary benefit of the study.

One accomplishment of the recently completed Platte River-Nebraska Level B Study was obtaining multiple-use of Loup River Public Power District lands along the Loup River. Development has begun on a 30-mile bike-hike trail between Columbus and Genoa which will follow the Mormon Trail. The Platte study also provided the basis for future additions to the recreation estate by identifying flood plain lands suitable for park land use in 46 local communities; opportunities for sandpit lake acquisition and recreation development in 20 locations; a major recreation area including portions of the Platte and Elkhorn Rivers; 49 river access nodes and development, along the Lower Elkhorn and Lower Platte Rivers; and the potential for establishment of a protected rivers system in the State of Nebraska.

In cooperation with the Great Lakes Basin Commission, the Bureau sponsored a workshop on the establishment of a Great Lakes Trail system involving eight States. Work is continuing on the identification of needs, means of development and organization of a regional trails council to ensure consideration of recreation trails in connection with water and related land use planning in the Basin.

The Bureau is working with the Water Resources Council toward improvement of recreation benefit evaluation procedures under the Principles and Standards. The Bureau chairs an interagency task force to develop common agreement between Federal agencies regarding procedures for evaluation of recreation benefits. The task force is monitoring a research contract with the University of Illinois, funded by the Office of Water Research and Technology.

The Bureau developed and issued, "Guidelines for Implementing the Principles and Standards for Planning Water and Related Land Resources in Studies of Wild, Scenic and Recreational Rivers and National Recreation Areas." The guidelines define how Principles and Standards are to be applied to these studies and describe plan formulation and study management procedures.

C. Research and Education

Fiscal year 1977, $113,000; fiscal year 1978, $113,000; no change.

Major Program Changes
None.

Program Description--In FY 1978, the Bureau will, through its coordination role, continue to seek the assistance of the research and education community in resolving four continuing problems: (1) the difficulty in retrieval of existing data and research results information for the use of managers and planners in their daily tasks; (2) the lack of a more effective interchange of current knowledge on research needs; (3) coordination of new research projects; and (4) the need for broader application of research results.

Partial solution of these problems will be accomplished through (1) evaluation of the potential for expansion of existing research information retrieval systems, including that of the Forest Service, to include broad outdoor

recreation concerns; (2) monthly meetings in Washington of the Outdoor Recreation Research Roundtable; (3) sponsoring National Outdoor Recreation Research Needs symposium; (4) the broad dissemination of research needs determinations, and implementation of projects via those persons in charge of funding research projects; and (5) the broad dissemination through Outdoor Recreation Action and Journal of Leisure Research of research results and the practical application thereof.

The Bureau will continue to provide general assistance and outdoor recreation expertise to Departmental programs and visitors with International interests; especially the Soviet Union, Spain, Iran, Saudi Arabia, Mexico and Japan.

D. GSA Space Costs

For rate increase in FY 1978, $15,000; for unfunded increased costs of previous years, $41,000; total, $56,000.

E. Employee Compensation Payments

Increase $24,000 for increase in estimated payments.

2. FEDERAL COORDINATION

2. Federal Coordination: Fiscal year 1977, $1,561,000; fiscal year 1978, $1,688,000; increase $127,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(a) +$100,000	+2	$1,661,000	62	Federal Coordination - Expanded cooperation with Department of Defense/ publication of Federal Outdoor Recreation Program
(B) + 27,000	--	27,000	--	GSA space costs.
+ 127,000	+2	1,688,000	62	

Program Synopsis

Effort is made to promote coordination of diverse Federal outdoor recreation and related programs. Reviews are made of transportation and environmental impact statements for projects which affect significant public park and recreation resources.

Major changes are: expanded cooperation with Department of Defense to promote more use of their lands for outdoor recreation; and publication of the Federal Outdoor Recreation Programs, the fourth edition of this publication.

A. Federal Coordination

Major Program Changes

(1) Expanded cooperation - Department of Defense	+$75,000, total $75,000 + 2 positions; total 2 positions

Proposal. Funds would be used to implement the Department of the Interior/ Department of Defense agreement whereby the Bureau of Outdoor Recreation provides assistance in the development of outdoor recreation resources on Defense installations.

Justification. The Department of the Interior and the Department of Defense have signed a Memorandum of Agreement whereby the Bureau of Outdoor Recreation, in concert with the appropriate State agencies, works with individual military installations to develop and enhance outdoor recreation resources. The Department of Defense administers and manages over 30 million acres of land. This makes them one of the major Federal land managers with holdings equal to those of the Park Service and the Fish and Wildlife Service. These vast lands contain many valuable outdoor recreation resources. The Bureau of Outdoor Recreation has initiated a program to assist the military in identifying and planning for these resources. In addition, the Bureau provides assistance for the development of appropriate recreation opportunities. The Bureau works with the installation to determine if outdoor recreation opportunities can be made available to the public in a manner consistent with the missions, security and resource limitations of the installation. The State is also consulted and the recreation resources and programs of the base are coordinated with the State Comprehensive Outdoor Recreation Plan and the recreation resources and programs of other Federal, State, local and private resource managers.

The requested increase will be utilized to expand this program to include all military services in FY 1978.

This increase will create no paperwork burden for the private sector or State and local governments, and no appreciable paperwork burden within the Federal government.

Cost factors. Two permanent positions at an annual cost of $20,600 each $41,000; materials, equipment, travel and other costs related to these positions, $16,000; contractual services, $18,000; total, $75,000.

(2) Publication of Outdoor Recreation Programs	+$25,000, total $25,000 + 0 positions, total 0 positions

Proposal. The increase would be used for the publication of an update of a Federal outdoor recreation program booklet, Federal Outdoor Recreation Programs.

Justification. These funds will be utilized to publish the Federal Outdoor Recreation Programs. This will be a fourth update of this publication. The publication has proven to be a valuable source document not only to those seeking knowledge of Federal programs and operations, but also to other Federal, State and local governments as they seek to coordinate their programs more effectively with existing Federal programs. The update and the revision of this document is currently underway and the funds that are requested are for final editing, preparation and publication. Over the years, this has proven to be an extremely valuable publication.

Cost factors. Contractual services.

Program Description.

Federal Recreation Program Review--Pursuant to Section 2(g), 3 and 3(a) of P.L. 88-29, the Bureau coordinates Federal plans and activities generally related to outdoor recreation. There are 16 major Federal departments and agencies which administer over 290 Federal programs of assistance to outdoor recreation. The Bureau of Outdoor Recreation is the focal point for the coordination of these programs.

This coordination effort involves evaluation and monitoring of the growing number of Federal programs contributing to or affecting recreation to enable the Bureau to keep abreast of changing Federal recreation programs, policies and responsibilities. The workload results from the Bureau's overview responsibilities for Federal recreation program coordination and as a result of the Nationwide Outdoor Recreation Plan. The objective of the Bureau's Federal coordination effort is to maximize the effectiveness of recreation programs at the Federal, State, local and private sector levels.

In its role of coordinating Federal recreation programs throughout the Government, the Bureau will give special attention to these four major problems identified in the Nationwide Outdoor Recreation Plan: (1) inadequate recreation opportunity close to where people live; (2) underutilization of Federal properties for outdoor recreation; (3) inadequate funding at the State and local level; and (4) unrealized potential of private enterprise to meet recreation demand.

Other Federal Coordination Functions: Specific efforts toward solutions to the above and other problems cited in the Plan will include:

Cooperative Management. During FY 1978, the Bureau will continue to identify existing Federal recreation lands which are of interest to State and local governments for outdoor recreation use through cooperative management arrangements. Currently, the Bureau is working with 16 Federal land managers to find ways to increase recreation opportunities through increased utilization of existing Federal lands.

Fishing, picnicking, swimming, and other beach recreation opportunities made available on 200 acres of U.S. Coast Guard lands, managed by the City of Galveston under lease agreement arranged through BOR's Cooperative Management Program.

Military Coordination. During FY 1978, the Bureau will expand its assistance to the Department of Defense in its development of recreation plans and resources on military installations.

Urban Recreation. The Bureau recognizes the tremendous problems and lack of recreation opportunities which exist in many of our urban centers. The Bureau will continue to work with other Federal agencies through our coordination efforts so that appropriate Federal expertise and assistance can be effectively and efficiently made available to local governments.

Recreation Energy Coordination. During FY 1978, the Bureau will continue to emphasize through its various publications and information pamphlets and programs the importance of energy economics in recreation planning and in the recreation activities. Special attention will be given to the availability of close-to-home recreation resources. By development of "open space" and urban recreation policy priorities, the Bureau will accelerate its activities to encourage public and private energy consciousness and to strengthen Federal, State and local government efforts to bring recreation opportunity closer to the American people.

Coastal Zone Coordination. Continue special efforts to achieve the statutory provisions of P.L. 92-583, as amended, (Coastal Zone Management Act) in cooperation with the National Oceanic and Atmospheric Administration. The unique characteristics of Coastal Zone wetlands, estuaries and beaches make them an invaluable recreation resource that must be wisely utilized. The Bureau works closely with NOAA in the coordination of grants, planning and other activities.

Off-Road Vehicles. The Bureau would continue coordination efforts of Federal policies and regulations concerning off-road vehicles. Weak controls for off-road vehicle use can destroy the ecological balance of public or private recreation areas as efficiently as bulldozers and pavement can. Education efforts provided and encouraged for the public research and other types of assistance concerning off-road vehicular use on public lands will be an integral part of the Bureau's program for this category.

Bikeway Planning. Assist Federal, State and local agencies and private interests in planning and developing bicycle routes, programs and facilities so that recreation needs as well as transportation goals are served. Coordinate with DOT and other Federal agencies on legislation, policies and programs related to bicycling. Encourage maximum use by State and local governments of bikeway funding assistance under various Federal-Aid Highway acts--including the Bikeway Demonstration Program under Section 119 of P.L. 93-643.

Waterway Access. Maintain liaison with DOT and coordinate the interests of the Department of the Interior in the implementation of Section 147 of P.L. 94-280, the Federal-Aid Highway Act of 1976. This enactment authorizes the development with highway funds of access ramps to boat launching facilities where a federally-aided bridge repair or replacement projects over a public waterway is undertaken. Joint DOI/DOT guidelines are being developed for this program.

Literature Information Retrieval. Maintain liaison and exchange information with numerous computerized bibliographic data bases which border or overlap the field of outdoor recreation. The Bureau is currently exploring ways of cooperating with such data bases to reduce duplication, fill gaps, and improve access to published information about parks and recreation.

Recreation Fee Program. Continue with coordinating the activities of the seven Federal agencies on the Recreation Fee Program as set forth in the Land and Water Conservation Fund Act of 1965, as amended. In particular, efforts will focus on improved public awareness of entrance fees and user charges, and further analysis of survey information leading to the development of rates which are comparable to those charged by other entities (public and private) for equivalent facilities. Several suggested improvements in the fee program resulting from the research findings and recommendations in the report of the study conducted by the Economics Research Associates of San Francisco will be considered for early implementation.

Railway Abandonments. Administer section 809(b) of P.L. 94-210, the Railroad Revitalization and Regulatory Reform Act of 1976, which established a program to encourage use of the rights-of-way of abandoned railroads for public purposes with emphasis on recreation and conservation. The authority granted to the Secretary of the Interior by this Act to aid recreation and conservation acquisition and development has been delegated to the Bureau.

Transportation Project Coordination--The Bureau's transportation project coordination and Section 4(f) (Department of Transportation) activities are concerned with all forms of transportation which receive Federal assistance--highways, airports, bridges, railroads, and urban transit systems. As the usual lead agency in preparing Interior's comments on transportation environmental statements, the Bureau's objectives are: (1) to minimize the encroachment of transportation projects on public parks, recreation areas, wildlife and waterfowl refuges, and historical sites of national, State or local significance; (2) to ensure that all possible planning has been done to minimize harm to such areas when encroachment is unavoidable; and (3) to ensure that recreation needs are fully realized.

Section 4(f) determinations, when required, are now an integral part of the Department of Transportation environmental impact statements. Bureau work entails a preliminary screening of all statements and coordination with other Interior agency programs involving existing and proposed park and recreation areas, wildlife and waterfowl refuges, historic sites, etc. This work requires attendance at interagency meetings, public hearings, field inspections, preparation

of reports and comments and general coordination with concerned Federal, State and local officials.

Section 6(f) of the L&WCF Act, as amended, is applicable to State areas if the affected Section 4(f) lands have received moneys from the L&WCF grant program. This section of the Act prohibits conversion of land from recreational use unless conversion is approved by the Secretary of the Interior and other recreation properties of at least equal fair market value and reasonably equivalent usefulness and location are substituted. In transportation projects involving both section 4(f) (DOI Act) and section 6(f) of the L&WCF Act, the Bureau coordinates these conversions to assure compliance with the law.

Legislative Review and Liaison--During the year, the Bureau will prepare new legislative proposals to increase public outdoor recreation opportunities, enhance the environment, and promote natural resources conservation. In addition, the Bureau will review and formulate positions on legislative proposals initiated by other agencies and Members of Congress that affect outdoor recreation and related programs.

The legislative review and liaison program involves the preparation of testimony and support data for Congressional hearings and the monitoring of such hearings. In addition, the program involves continuing contacts with the Department's Legislative Counsel, legislative offices of other Federal agencies, Members of Congress and their staffs, Congressional Committees and their staffs, as well as State and local government and non-governmental agencies involved in outdoor recreation and related legislative proposals.

Recreational Environmental Activities--The Bureau of Outdoor Recreation's environmental program will be increasingly involved during the fiscal year with meeting the Nation's energy requirements while simultaneously satisfying its recreation requirements. The need to establish compatible coal leasing and recreation policies on public lands administered by the Department of the Interior is a case in point. During the fiscal year, the Bureau will participate in an estimated 20 task forces charged with proposing procedures for extracting maximum amounts of coal on broad areas of a number of States while, on those same areas, protecting the quality of the public's recreation and other environmental considerations.

The Bureau of Outdoor Recreation anticipates continued involvement in other task force work in FY 1978. Off-shore oil leasing, phosphate development, and a variety of other projects related to the primary missions of the Department of the Interior are probable sources of task force assignments. Task force work involves field investigation and reports on potential environmental impacts of proposed Federal projects on public and private recreation assets and values.

The Bureau's general environmental work falls into three categories: (1) preparing environmental impact statements or environmental assessments; (2) reviewing and commenting on environmental impact statements prepared by other Federal agencies; and (3) participating in general activities where the Bureau's environmental interests are concerned, including membership on multi-disciplinary task forces or work groups assigned to environmental projects of major departmental significance.

The Bureau of Outdoor Recreation is required by Section 102 (2) (C) of the National Environmental Policy Act of 1969 (P.L. 91-190) 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 the recreation environment of their proposed actions. The Office of Environmental Affairs, Washington, serves as Bureau-wide coordinator for environmental concerns.

Environmental impact statements are prepared for most Bureau resource area studies, such as proposed National Recreation Areas and additions to the National Wild and Scenic Rivers System and the National Trails System. Environmental assessments are prepared for most Land and Water Conservation Fund grant projects; environmental impact statements are prepared for grant projects of major environmental significance.

Some 4,500 environmental assessments and 30 environmental impact statements on grant projects are expected to be prepared during the fiscal year.

Of the approximately 2,500 environmental impact statements received by the Department from other agencies, the Bureau annually reviews about 2,200 involving impacts on recreation. This large number underscores the effects on the recreation environment of numerous proposed projects throughout the Federal establishment.

More frequently than any other agency of the Department of the Interior, the Bureau of Outdoor Recreation is designated to serve as coordinating agency to consolidate comments of all agencies of the Department on environmental impact statements originating in other Departments. These assignments are directed to the Bureau because outdoor recreation considerations occur more frequently than any others in the environmental impact statements which come to Interior. The Bureau expects to meet this steady increasing load with present money and manpower levels in FY 1978.

Environmental impact statements for which the Department requires Bureau of Outdoor Recreation comments divide relatively equally into three categories: transportation projects covering highways, bridges, airports, and associated planning; water-related projects involving U.S. Army Corps of Engineers and Bureau of Reclamation projects; and general projects such as those concerned with generation of electrical power, transmission of oil and gas, disposal of refuse, and similar topics.

Data Processing and Statistics--The Bureau maintains extensive ADP files of Grant-in-Aid management information and Nationwide Planning data. Recurring and special tabulations are provided to Congress, governments, and industry for administrative, planning, and research purposes. Outputs consist of tabulations, computer tapes, and analytical runs of resource, Grants-in-Aid, and socio-economic information contained in the files.

The objective of the Bureau's automated recreation information system is to compile a common data bank utilizing existing Federal and State agency data bases.

Program Review and Evaluation--The Bureau will continue to develop and refine methods and procedures for the systematic review and evaluations of recreation programs and projects. Based upon recommendations and findings contained in the Nationwide Plan, the Bureau is updating its analytical programs in order to more effectively and efficiently determine outdoor recreation opportunities.

Highlights of Recent Accomplishments

-- Executed a cooperative agreement with the Department of Defense for the development of outdoor recreation resources and programs on approximately 65 major Air Force installations.

-- Participated in and provided staff services to the Assistant Secretary's office in the conduct of a 28 city urban study. This study, done at the request of Senator Jackson, analyzed the open space opportunities in 28 SMSAs throughout the nation.

-- Prepared and published an informative brochure on the Cooperative Management Program.

-- Published a study of Federal outdoor recreation budgets. This study included a survey of over 70 Federal agencies to determine what they spent for outdoor recreation.

-- Initiated the field work on the Congressionally-mandated study of urban recreation contained in P.L. 94-422. These field studies, including all of the 13 SCSAs of the country, examine the various needs, problems and opportunities of urban recreation.

-- Prepared an update of Federal Recreation Programs. This study examined all Federal programs to determine their effect upon and relationship to outdoor recreation. Over 70 agencies and 290 programs were identified.

-- Assisted the Federal Highway Administration in the issuance of draft guidelines for implementation of Section 147, Federal Aid Highway Act of 1976, regarding: waterway access from bridge reconstruction sites.

-- Reviewed 147 Section 4(f) statements and 268 environmental statements.

-- Submitted the annual Federal Recreation Fee Report to Congress.

-- Published the first annual (1975) Federal Recreation Area Visitation report. This document fulfills the need for recreation data on time spent--visitor hours and number of people--recreation days--for all Federal recreation management areas.

-- Cooperate with the National Park Service in a major national study of concessioner pricing practices and pricing comparability.

-- In 1976-77, approximately 250 individuals attended the 25 BOR Research Roundtable Seminars. Topics of discussion and involvement included space requirements for user recreation activities, travel and tourism research, economic impact of recreation investments, public willingness to pay recreation fees and carrying capacity research.

-- Prepared the Off-Road Vehicle environmental impact statement for the Department.

-- Participated in 19 environmental task forces.

-- Provided environmental procedural guidance to other Bureau units, resulting in BOR being more responsive in implementation of NEPA.

-- Reviewed, evaluated and analyzed 2,200 EIS's for Federal and Federally assisted projects.

-- Made significant progress in establishing an efficient and effective system for eliminating the preparation of unnecessary environmental assessments.

-- Prepared 43 legislative proposals and reviewed, analyzed and commented on 310 bills on outdoor recreation matters.

B. GSA Space Costs

For rate increase in FY 1978, $7,000; for unfunded increased costs of previous years, $20,000; total, $27,000.

3. TECHNICAL ASSISTANCE

3. Technical Assistance: Fiscal year 1977, $1,414,000; fiscal year 1978, $1,431,000; increase, $17,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Programs	Total Positions	Explanation
(A) --	--	$1,414,000	53	Technical Assistance - No change.
(B) +$ 17,000	--	+17,000	--	GSA space costs.
+ 17,000	--	1,431,000	53	

Program Synopsis

Assistance is provided to Federal agencies, States, local governments, and the private sector on a wide variety of outdoor recreation proposals, problems and studies. Surplus Federal lands which are suitable for park and recreation purposes are identified and assistance provided for transfer of such lands for public use.

A. Technical Assistance

Major Program Changes
None.

Program Description

General Assistance Programs--The Bureau's technical assistance program provides planning and technical assistance to governmental units and private interests which result in measurable increases in recreation areas, facilities and opportunities. Also, funded under the Technical Assistance activity is the work directed to the survey, inventory and transfer to State and local governments of surplus Federal real property suitable for park and recreation purposes. Another aspect of the technical assistance program is responding to requests for technical information. Based on past requests, the Bureau will respond to approximately 20,000 requests for recreation related information during FY 1978, much of which is contained in the Bureau's Outdoor Recreation Clearinghouse of about 8,500 references on many facets of recreation and environmental quality.

The Technical Assistance Program, as provided for in the Bureau's Organic Act, P.L. 88-29, is designed to enhance the total public and private outdoor recreation estate. The program supports other Bureau efforts, other governmental recreation interests, and the private sector in providing additional public recreation opportunities to meet our citizens' recreation needs.

Transfer of Surplus Federal Property--Under the Federal Property and Administrative Services Act of 1949, unutilized and underutilized Federal real properties are reported to the General Services Administration as excess to the holding agencies and as "Surplus" to the Federal Government's needs. State and local governments are given an opportunity to apply for these properties for a variety of purposes including public park and recreation or historic monument purposes. The Bureau of Outdoor Recreation is responsible for: (a) entertaining State and local governments' expressions of interest in properties for public park and recreation purposes; (b) providing assistance in the development of suitable use plans and proposals; (c) reviewing and approving applications; (d) preparing and issuing deeds of transfer; (e) conducting compliance inspections to assure that recipients conform to deed requirements, and for protecting the Federal Government's interests. Similar actions are undertaken in conjunction with the National Park Service with respect to applications for properties for historic monument purposes.

Since the inception of the "Legacy of Parks" program in 1971, the White House has announced the transfer of 646 surplus properties for public park, recreation and wildlife purposes. The 646 properties comprise 82,591 acres of land with an estimated fair market value of $242,714,076. During FY 1976, deeds were issued for 82 properties comprising 8,799 acres with an estimated fair market value of $29,982,000.

Seventy percent of the transferred properties will help to meet the recreation needs of people in cities and towns of 25,000 population and more and sixty percent are within Standard Metropolitan Statistical areas. The properties transferred during FY 1976 ranged in size from less than one acre to 1,749 acres. Examples of significant transfers include a former 1,260-acre Naval Research Laboratory property to Fairfax County, Virginia; a 65-acre portion of the Fort Wayne Military Reservation to the City of Detroit, Michigan; a 283-acre portion of the Fort Wayne Military Reservation to the City of Detroit, Michigan; a 283-acre portion of the Fort Dix Military Reservation to the State of New Jersey; and a 196-acre portion of Sand Point Naval Air Station to Seattle, Washington. Just as significant to the beneficiaries were the transfer of several small areas to be developed as local neighborhood parks. Significantly, there is a direct relationship between this program activity and the Land and Water Conservation Fund since many property recipients have or will apply for matching fund grants.

Private Sector Involvement--The Bureau's work with the private sector has been one of the Bureau's most productive efforts of the past two years and we will continue to focus on private contributions to and support of public recreation opportunities in cooperation with State and local governments.

During FY 1976, we added 137,077 acres and 75 miles of trail, valued at over $25 million, to the public outdoor recreation estate. Of this, 62,483 acres and all of the trails, valued at over $13.5 million, were acquired at little or no cost to the recipient public agency. We expect that our efforts will result in adding an even greater amount during the coming fiscal year.

Many actions taken by private interests interface with the Land and Water Conservation Fund program and further its objectives. Private donations are frequently utilized for matching Fund grants. A notable example during FY 1976 was the acquisition and development of a Youth Park in Oklahoma City. The Dolese Company donated 89 acres, valued at $1.4 million, and the Kerr Foundation is donating $1 million cash to the city. A $1.4 million grant from the Land and Water Conservation Fund supplements these donations for the development of the site including playfields, swimming, tennis, picnicking, hiking, bicycling and playground facilities.

Another example is the acquisition by bargain sale of the 112,000-acre Mt. Haggin Ranch in the State of Montana. The ranch is valued at $8,500,000. Recipients of this property were the Montana Fish and Game Department and the U.S. Forest Service. The Land and Water Conservation Fund involvement in this project included grants totalling $1,450,000. This project included a $1,989,000 bargain sale donation and $1,000,000 cash donation from the former owner.

Other notable accomplishments of the program during FY 1976 was the donation by St. Joe Minerals Corp. of 8,500 acres, located 60 miles south of St. Louis, to the State of Missouri for the Development of a State park. The 8,500-acre tract is valued at over $2 million.

The Bureau has been actively involved in many other technical assistance activities which cannot be expressed in dollar values but have had direct and/or indirect benefits to public outdoor recreation. These include providing planning assistance for the development of riding and hiking, scenic/natural and other types of trails; providing planning assistance for the development of community gardening; assisting in the preparation of legislation and/or guidelines on

83-561 O - 77 - 18

conservation zoning and easements; assisting in the establishment of non-profit resource and land protection foundations; assisting in studies leading to the opening of private and public grounds for public outdoor recreation; assisting local and regional planning groups in identifying recreation and open space potentials; assisting in the development and distribution of booklets on recreation development/land conservation techniques and strategies; and participating in park/recreation/conservation seminars and conferences in cooperation with public and private interests.

Our technical assistance to State and local governments and private interests is designed to add to the public outdoor recreation estate with a minimum of Federal expenditures. At the current level of effort over $20 worth of public recreation property is obtained for every Federal dollar expended on the private sector program.

B. GSA Space Costs

For rate increase in FY 1978, $5,000; for unfunded increased costs of previous years, $12,000; total, $17,000.

DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
SALARIES AND EXPENSES

For necessary expenses of the Bureau of Outdoor Recreation, not otherwise provided for, [$5,961,000] $6,857,000. (16 U.S.C. 4601-4601-3; Department of the Interior and Related Agencies Appropriation Act, 1977.)

DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
SALARIES AND EXPENSES

Program and Financing (in thousands of dollars)

Identification code 14-0700-0-1-303	19 76 actual	19 TQ actual	19 77 estimate	19 78 estimate
Program by activities:				
Direct program:				
1. Planning and research..	2,944	834	3,214	3,738
2. Federal coordination...	1,445	395	1,561	1,688
3. Technical assistance...	1,319	352	1,414	1,431
Total direct program costs	5,708	1,581	6,189	6,857
Change in selected resources (undelivered orders).....	-174	194	--	--
Total direct obligations....	5,534	1,775	6,189	6,857
Financing:				
21.00 Unobligated balance available, start of period..	--	-355	--	--
24.00 Unobligated balance available, end of period...	355	--	--	--
25.00 Unobligated balance lapsing.....	--	76	--	--
Budget authority.....	5,889	1,496	6,189	6,857
Budget authority:				
40.00 Appropriation.....	5,889	1,496	5,961	6,857
44.20 Supplemental now requested for civilian pay raises	--	--	228	--
Relation of obligations to outlays:				
71.00 Obligations incurred, net	5,534	1,775	6,189	6,857
72.00 Obligated balance, start of period.....	618	466	734	742
74.00 Obligated balance, end of period.....	-466	-734	-742	-742
77.00 Adjustment in expired accounts.....	9	-40	--	--
90.00 Outlays, excluding pay raise supplemental.....	5,694	1,467	5,962	6,848
91.20 Outlays from civilian pay raise supplemental.....	--	--	219	9

DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
SALARIES AND EXPENSES
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 14-0700-0-1-303	1976 actual	1TQ actual	1977 estimate	1978 estimate
Direct obligations:				
Personnel compensation:				
11.1 Permanent positions	3,881	1,102	4,236	4,410
11.3 Positions other than permanent	154	51	231	231
11.5 Other personnel compensation	6	3	6	6
11.8 Special personal service payments				
Total personnel compensation	4,041	1,156	4,473	4,647
Personnel benefits:				
12.1 Civilian	403	130	432	448
12.2 Military personnel				
21.0 Travel and transportation of persons	267	75	320	340
22.0 Transportation of things	7	6	7	7
23.1 Standard level user charges	280	74	404	431
23.1 Rent, communications, and utilities				
23.2 Other/	172	52	172	180
24.0 Printing and reproduction	78	26	78	85
25.0 Other services	190	192	190	574
26.0 Supplies and materials	76	34	76	84
31.0 Equipment	20	24	20	20
32.0 Lands and structures				
33.0 Investments and loans				
41.0 Grants, subsidies, and contributions				
42.0 Insurance claims and indemnities	--	6	17	41
43.0 Interest and dividends				
44.0 Refunds				
99.0 Total direct obligations	5,534	1,775	6,189	6,857

DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
SALARIES AND EXPENSES
Personnel Summary

Identification code 14-0700-0-1-303	19 76 actual	19	19 77 estimate	19 78 estimate
Direct:				
Total number of permanent positions	223		221	230
Full-time equivalent of other positions	17		25	25
Average paid employment	223		228	237
Average GS grade	9.58		9.57	9.57
Average GS salary	$18,020		$18,871	$18,821

BUREAU OF OUTDOOR RECREATION

Land and Water Conservation Fund

Appropriation, 1977		$397,056,000
Contract authority		30,000,000
Contract authority, unobligated balance lapsing		-30,000,000
Unobligated balance from prior years		85,421,000
Total available for obligation		482,477,000
Decreases:		
Assistance to States		
Appropriation, 1977	$175,516,000	
Unobligated balance from TQ	62,802,000	
Less: Payraise adjustment	-213,000	
Subtotal	238,105,000	
Federal programs		
Appropriation, 1977	214,854,000	
Unobligated balance from TQ	22,619,000	
Less: Payraise adjustment	-25,000	
Subtotal	237,448,000	475,553,000
Subtotal		6,924,000
Increases:		
Assistance to States		
Appropriation, 1978	351,635,000	
Unobligated balance from FY 1977	58,477,000	
Subtotal	410,112,000	
Federal programs		
Appropriation, 1978	239,136,000	
Unobligated balance from FY 1977	--	
Subtotal	239,136,000	
Administrative Expenses	2,305,000	651,553,000
Total available for obligation		658,477,000
Less: Unobligated balance from FY 1977		-58,477,000
Budget estimate 1978		$600,000,000

BUREAU OF OUTDOOR RECREATION
Land and Water Conservation Fund
Analysis by Activities

Activity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
1. Assistance to States								
Appropriation	$175,739,000	$175,303,000	--	$351,635,000	--	$+176,332,000	--	35
Unobligated balance brought forward	37,322,000	62,802,000[a/]		58,477,000		-4,325,000		
Obligation program	162,803,000	179,628,000		330,635,000		+151,007,000		
Unobligated balance carried forward	50,258,000	58,477,000		79,477,000		+21,000,000		
2. Federal programs								
Appropriation	134,902,000	214,829,000	--	239,136,000	--	+24,307,000	--	38
Contract authority used	--	--		--		--		
Unobligated balance brought forward	27,499,000	22,619,000		--		-22,619,000		
Obligation program	130,751,000	237,448,000		239,136,000		+1,688,000		
Unobligated balance carried forward	31,650,000	--		--		--		
3. Administrative expenses								
Appropriation	6,345,000	6,924,000	233	9,229,000	277	+2,305,000	44	45
Obligation program	6,293,000	6,924,000		9,229,000		2,305,000		
Unobligated balance carried forward	52,000	--		--		--		
Total Appropriation	316,986,000	397,056,000	233	600,000,000	277	+202,944,000	44	
Total Contract authority used	--	--		--		--		
Total unobligated brought forward	64,821,000	85,421,000[a/]		58,477,000		-26,944,000		
Total obligation program	299,847,000	424,000,000		579,000,000		+155,000,000		
Total unobligated carried forward	81,960,000	58,477,000		79,477,000		+21,000,000		

a/ Includes $20,000,000 to be transferred (returned) from Bureau of Land Management.

1. ASSISTANCE TO STATES

1. Assistance to States: Fiscal year 1977, $175,303,000; fiscal year 1978, $351,635,000; increase of $176,332,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$176,332,000	--	$351,635,000	--	Assistance to States - Fund enlargement by P.L. 94-422.

Program Synopsis

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.

Public Law 94-422 provided for the increase of the authorized Fund level from $300 to $600 million in FY 1978. The proposed allocation of the State share of $351,635,000 among the States is in accord with Section 6 of the new act.

Program Description: Under this program, Federal dollars are matched with an equal or larger amount of State and local money to finance acquisition and/or development of public outdoor recreation areas and facilities. As required by the Land and Water Conservation Fund Act, all projects must be in accord with the comprehensive statewide outdoor recreation plan prepared by the State and found adequate by the Bureau of Outdoor Recreation. This requirement established an orderly approach to resolving outdoor recreation needs at State and local levels. Without exception, State plans indicate a growing need to provide more recreation opportunities and a lack of State and local funds sufficient to do the whole job.

The FY 1978 request reflects the need to increase this program significantly. Expansion of the program was authorized by the 1976 amendments to the Land and Water Conservation Fund Act (P.L. 94-422), which doubled the size of the Fund in FY 1978 to meet the increased recreation needs of the American people through greater State and local efforts. It also recognizes the impact of escalating costs of recreation lands and facilities. Coupled with a carryover balance of appropriated Fund monies estimated to be $58.5 million, the requested $351.6 million would bring the total available for obligation by the States to $410.1 million. This availability is summarized as follows:

Carryover Balance Sept 30, 1976	Budget Authority FY 1977	Estimated Obligations FY 1977	Estimated Carryover Sept 30, 1977	Requested Budget Authority FY 1978
$62.8 million	$175.3 million	$179.6 million	$58.5 million	$351.6 million

By the end of FY 1976, the Bureau of Outdoor Recreation had approved approximately 16,585 Land and Water Conservation Fund projects providing $1.31 billion in Federal assistance. This amount has been matched by an equal amount of State and local money for a total program of $2.62 billion. Approximately 1.5 million acres have been acquired by grantees under 5,690 projects, and 10,660 development projects and 235 planning grants were initiated by the States.

An additional 2,500 individual grant projects will have been approved by the Bureau of Outdoor Recreation during FY 1977.

In amending the Land and Water Conservation Fund Act in 1976, both Congress and the President recognized the growing need to provide recreation lands and facilities before it is too late, doubling the Fund in FY 1978 and increasing it to $750 million in FY 1979 and $900 million in FY 1980. The record clearly indicates that Congress expected 60 percent of these amounts to be matched by State and local governments for the recreation areas and facilities they are in the best position to provide. The full appropriation of $351.6 million will permit the States to phase into the larger programs called for in fiscal years 1979 and 1980. Almost without exception, States report project applications far exceeding the Land and Water Conservation Fund matching monies available. The orderly increase to $540 million a year for State purposes and funding at that level for the life of the Fund will permit America to provide adequate recreation opportunity for present and future generations.

ESTIMATED FISCAL YEAR 1978 APPORTIONMENT OF $351,635,000

State	Apportionment	State	Apportionment
Alabama	$ 5,751,967	New Hampshire	$ 3,179,243
Alaska	2,781,280	New Jersey	10,612,255
Arizona	4,606,609	New Mexico	3,328,605
Arkansas	4,080,913	New York	22,108,934
California	25,471,440	North Carolina	6,824,563
Colorado	5,081,329	North Dakota	2,893,057
Connecticut	5,905,097	Ohio	13,523.969
Delaware	3,062,969	Oklahoma	4,838,764
Florida	10,810,423	Oregon	4,531,835
Georgia	6,763,827	Pennsylvania	14,702,248
Hawaii	3,387,759	Rhode Island	3,546,654
Idaho	3,006,850	South Carolina	4,777,271
Illinois	14,045,369	South Dakota	2,928,961
Indiana	7,478,628	Tennessee	6,298,680
Iowa	4,665,975	Texas	14,576,387
Kansas	4,309,208	Utah	3,698,951
Kentucky	5,236,313	Vermont	2,756,141
Louisiana	5,953,003	Virginia	7,073,407
Maine	3,259,830	Washington	5,884,300
Maryland	6,830,760	West Virginia	3,859,313
Massachusetts	9,061,591	Wisconsin	6,618,041
Michigan	11,934,512	Wyoming	2,700,828
Minnesota	6,093,687	District of Columbia	1,301,324
Mississippi	4,102,586	Puerto Rico	4,330,323
Missouri	6,923,349	Virgin Islands	96,342
Montana	3,008,122	Guam	116,637
Nebraska	3,742,235	American Samoa	33,008
Nevada	3,089,949	N. Mariana Islands1/	16,679

Apportioned to States	$337,602,300
Contingency	14,032,700
Total Appropriated	$351,635,000

1/ Estimated apportionment provided the Northern Mariana Islands achieves commonwealth status per section 6.(b)(5) of the Land and Water Conservation Fund Act of 1965, as amended.

2. Federal Programs: Fiscal year 1977, $214,829,000; fiscal year 1978, $239,136,000; increase of $24,307,000.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) +$24,307,000	--	+$24,307,000	--	Fund enlargement by P.L. 94-422
(2) --	--	214,829,000	--	All other programs.
+$24,307,000	--	$239,136,000	--	

Major Program Changes

(1) Federal Programs +$24,307,000; total $239,136,000.

A program based on the $600 million annual income level of the increased Land and Water Conservation Fund is requested for FY 1978, in contrast to the lower level authorized and appropriated by Congress for FY 1977.

Program Synopsis

This budget request is in consonance with the President's Bicentennial Land Heritage Program included in a FY 1977 supplemental request for $140,743,000 to be used to acquire lands for parks, wildlife refuges, recreation areas and historic sites. The funds in the supplemental request are not included in the amounts shown in this regular budget request.

In view of the close correlation between the proposed management unit acquisition program of the President's Bicentennial Land Heritage program and the FY 1978 budget request, consideration will need to be given to amending the FY 1978 request should be former programs not be enacted.

The funds requested are for the acquisition of land and water recreation areas of national or regional significance. Such purchase will provide the base for outdoor recreation opportunities within reasonable access of major population concentrations, as well as for the preservation of outstanding resources and certain rare and endangered species. These programs are necessary to meet the increasingly heavy visitor demand for Federal recreation areas and to preserve key properties for public recreation use before they are converted to incompatible uses. Timely acquisition is also necessary to reduce the impact of price escalation which continues to be a major problem.

The four Federal land-managing agencies which use the Land and Water Conservation Fund for the acquisition of land and water recreation areas have identified a backlog of about $2 billion of the Federal portion of the Fund. The Land and Water Conservation Fund is the major source of acquisition funds for Federal recreation and conservation areas for these agencies.

Federal Programs Funding

	FY 1977 Estimate	FY 1978 Estimate	Change
National Park Service	$144,586,000	$142,995,000	-$1,591,000
Forest Service	52,500,000	67,063,000	+14,563,000
Fish & Wildlife Service	15,743,000	26,978,000	+11,235,000
Bureau of Land Management	2,000,000	2,100,000	+100,000
Totals	$214,829,000	$239,136,000	+$24,307,000

1. National Park Service. -$1,591,000; total $142,995,000.

The request for $142,995,000 includes funds to: continue emphasis on Big Cypress National Preserve where the Congress has expressed its desire that land acquisition be essentially completed within six years of the date of the enabling legislation; continue the deficiency line item for the large number of cases that will be coming to trial in FY 1978; assure the land acquisition momentum gained in FY 1977 is maintained at important national, historical and recreation areas such as lower St. Croix National Scenic River, Voyaguers National Park and Sleeping Bear Dunes National Lakeshore; maintain the opportunity inholding program; assure essential acquisitions at areas which were not funded in FY 1977 such as Virgin Islands National Park and Ozark National Scenic Riverway; initiate acquisition at Ninety-Six National Historic Site; and acquire lands at areas for which additional ceiling authorization legislation was passed during the 94th Congress, including the Buffalo National River, Gulf Islands National Seashore, Congaree National Monument, Indiana Dunes National Lakeshore and Olympic National Park.

Fiscal Year 1978 Program

Deficiencies	$ 2,500,000
Inholdings	17,000,000
Relocation	500,000
Recently Authorized Areas	
Appalachian Trail	500,000
Appomatox Court House NHP	1,290,000
Assateague Islands NS	1,329,000
Big Cypress N. Pre.	16,000,000
Buffalo NR	6,955,914
Capitol Reef NP	1,827,600
Colonial NHP	1,000,000
Colorado NM	440,000
Congaree NM	18,000,000
Edison NHP	75,000
Fire Island NS	2,000,000
Fort Smith NHS	1,416,101
Gulf Islands NS	12,700,000
Haleakala NP	920,000
Indiana Dunes NL	12,000,000
Lincoln Home NHS	1,046,000
Lower St. Croix NSR	3,640,000
Mesa Verde NP	110,200
Monocacy NMP	3,515,000
Ninety-Six NHS	300,000
North Cascades NP	980,000
Obed NSR	1,000,000
Olympic NP	7,300,000
Ozark NSR	500,000
Padre Island NS	350,000
Pinnacles NM	945,000
St. Gaudens NHS	80,000
Scotts Bluff NM	125,000
Sleeping Bear Dunes NL	16,722,685
Virgin Islands NP	2,150,000
Voyageurs NP	7,777,500
Total	$142,995,000

The majesty of Olympic National Park is but one of the National treasures included in the National Park Service Program.

2. Forest Service. +$14,563,000; total $67,063,000.

The request of $67,063,000 provides for continued acquisition within Congressionally authorized areas and key recreation lands in Wilderness Areas and Recreation Composites. The Congressionally authorized areas including Flaming Gorge, Hells Canyon, Mount Rogers, and Spruce Knob-Seneca Rocks National Recreation Areas, as well as funds for Oregon Dunes National Recreation Area for which additional authorization was passed during the 94th Congress. Also included in this request are the Feather, Flathead, Rogue and Salmon National Wild and Scenic Rivers and the Pacific Crest and Appalachian National Scenic Trails. Funds are requested for deficiencies which are needed on a continuing basis to satisfy awards and forego an accumulation of substantial interest costs. Included in the request is funding for the Cascade Head Scenic Research Area and the National Forest Recreation Composite program.

Fiscal Year 1978 Program

National Recreation Areas	
Flaming Gorge	$ 1,500,000
Hells Canyon	3,000,000
Mount Rogers	3,000,000
Oregon Dunes	1,600,000
Spruce Knob-Seneca Rocks	2,500,000
National Trails System	
Appalachian Trail	500,000
Pacific Crest Trail	113,000
Wilderness	
Alpine Lakes	20,000,000
Other	5,750,370

National Wild and Scenic Rivers	
Feather	2,399,000
Flathead	1,000,000
Rogue	810,630
Salmon	390,000
Cascade Head Scenic Research Area	2,000,000
National Forest Recreation Composites	17,500,000
Deficiencies:	5,000,000
Total	$67,063,000

The Forest Service program includes land acquistion in several wilderness areas which will provide unique remote recreation opportunities.

3. Fish and Wildlife Service. +$11,235,000; total $26,978,000.

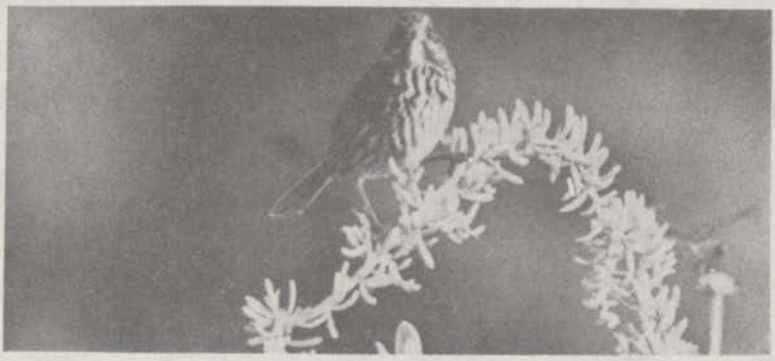
The $26,978,000 requested will be used to acquire land for the protection of essential habitat of endangered species and at existing National Wildlife Refuges for wildlife related recreation activities. Funds are requested for seven endangered species including the Attwater's Prairie Chicken, the Hawaiian Water Birds, the Light Footed Clapper Rail, the Dusky Seaside Sparrow, and the California Clapper Rail.

Funds are needed for the acquisition of wildlife related recreation lands at five National Wildlife Refuges including Great Swamp, San Bernard, and Santa Ana.

The request includes money for deficiency awards in court cases and specially legislated areas including Minnesota Valley, Great Dismal Swamp and Tinicum.

Fiscal Year 1978 Program

Endangered Species	
Attwater's Prairie Chicken	$ 1,800,000
Dusky Seaside Sparrow	1,100,000
Hawaiian Water Birds	1,000,000
Indiana Bat/Grey Bat	525,000
Light Footed Clapper Rail/California Least Tern	1,725,000
Santa Cruz Salamander	200,000
Salt Water Marsh Harvest Mouse/ California Clapper Rail	2,250,000
Recreation Additions to Existing Areas	
Bombay Hook	250,000
Great Swamp	750,000
Great White Heron	500,000
San Bernard	1,100,000
Santa Ana	600,000
Special Legislation	
Great Dismal Swamp	4,800,000
Minnesota Valley	7,800,000
Tinicum	1,600,000
Deficiencies	978,000
Total	$26,978,000



Dusky Seaside Sparrow habitat consists of a limited area of cordgrass savannah on the East coast of Florida being lost at a rapid rate as a result of wildfires, conversion to improved pasture and retirement or second home developments.

4. Bureau of Land Management. +$100,000; total $2,100,000

The requested $2,100,000 will be utilized to acquire land for the Rogue and the Missouri National Wild and Scenic Rivers. This funding level will appropriate all remaining authorization for the Rogue Wild and Scenic River Program. The funds requested for the Missouri National Wild and Scenic River will provide the initial funding needed to implement acquisition.

Fiscal Year 1978 Program

National Wild and Scenic Rivers	
Missouri	$100,000
Rogue	2,000,000
Total	$2,100,000

The Rogue National Wild And Scenic River acquisitions by the Bureau of Land Management will preserve this free flowing river while providing significant opportunities for public recreation.

Federal Program Accomplishments--About 1.7 million acres of Federal lands have been purchased with Land and Water Conservation Fund monies through September 30, 1976, at a cost of approximately $961 million. These accomplishments are summarized by agency in the following table:

Land Purchased Through September 30, 1976

Agency	Number of Tracts	Acres	Costs
National Park Service	29,434	758,469	$682,787,000
Forest Service	3,817	839,668	236,786,000
Fish and Wildlife Service	415	77,001	36,379,000
Bureau of Land Management	87	4,585	4,951,000
Total	33,753	1,679,723	$960,903,000

83-561 O - 77 - 19

Included in the above costs are the incidental costs associated with acquisition of land by donation, exchange, and transfer. By this means, the National Park Service has acquired 1,945 additional tracts containing 1,582,097 acres and the Bureau of Land Management has acquired 23 additional tracts containing 6,547 acres.

The acquisitions under the Fund represent high priority lands acquired to serve recognized national outdoor recreation and resource conservation needs. Program emphasis has been directed toward acquisition of areas specifically authorized by the Congress. Programs which are authorized generally, but for which individual areas are not specifically authorized--National Forest composites, Endangered species habitat, National Park inholdings, and recreational additions to refuges--are expanded only moderately over FY 1977 land acquisition funding levels. The Administration's position is that the costs of areas acquired under the generally authorized programs have become sufficiently high that there should be Congressional as well as Executive review and authorization of them. Consequently, the following ceilings have administratively been placed upon acquisition of individual areas under the generally authorized programs:

National Forest composites---------$3 million per National Forest

Endangered Species habitat---------$5 million per species

National Park System inholdings----$5 million per park area

Under this policy an acquisition program at an area which contemplates the prospective expenditure of more than these amounts must be specifically authorized by the Congress with a higher ceiling.

3. ADMINISTRATIVE EXPENSES

3. Administrative Expenses: Fiscal year 1977, $6,924,000; fiscal year 1978, $9,229,000; increase of $2,305,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) +$1,990,000	+42	$8,200,000	251	To administer enlarged State Programs
(B) + 150,000	+2	864,000	26	To administer enlarged Federal Programs
(C) + 165,000	--	165,000	--	GSA space costs
+$2,305,000	+44	$9,229,000	277	

Program Synopsis

Funds are provided to coordinate and administer the State and Federal programs, to review and approve State recreation plans, State project proposals and Federal land acquisition proposals.

The increased funds requested will provide for the administration of the State assistance and Federal portions of the Fund at the newly authorized level of $600 million, and provide for increased project related and supportive planning and technical assistance workload resulting from the expanded Fund.

A. Assistance to States

Fiscal year 1977, $6,210,000; fiscal year 1978, $8,200,000; increase of $1,990,000.

Major Program Changes

(1) Increased funds required to administer State assistance portion of L&WCF	+$1,990,000; total $1,990,000 +42 positions; total, 42 positions

Proposal: P.L. 94-422 amended the Land and Water Conservation Fund Act to increase the authorized Fund level from $300 to $600 million in FY 1978, $750 million in FY 1979, and $900 million in FY 1980. A portion of the increased Administrative Expenses request would be used to administer the State assistance program and for increased project related planning and technical assistance workload resulting from the expanded Fund.

Justification. Increased funds are needed to administer the higher fund level and for handling increased workload covering the review and approval of project proposals; strengthening of Statewide Comprehensive Outdoor Recreation Plans as guides for the allocation of State funds to meet priority needs; coordination of SCORPs with other Federal planning and financial assistance programs; ensuring compliance with a number of Federal statutory requirements ranging from the Civil Rights Act of 1964 to the Joint Funding Simplification Act of 1974; processing of environmental assessments and preparation of project EIS; and processing of payments to States for work in place.

Strong emphasis will be given to the strengthening of the Bureau's staff capability for project review and approval, post approval project administration and post completion project compliance. This emphasis reflects the results of recent internal audits of the State assistance program and the emerging need to tighten program accountability. The objective would be to ensure that the use

of Federal funds and the availability of the Fund assisted lands and facilities to the public continues to be in accord with the Land and Water Conservation Fund Act and the intent of Congress.

Based upon the substantially increased availability of funds to the States, the Bureau's project related workload covering planning and technical assistance services to the States and their political subdivisions will increase. These services include: (a) the development of State Wild and Scenic River Systems; (b) the development of State, regional and local systems of trails (c) assistance in working out cooperative agreements with Federal agencies for State or local agency management of underutilized lands with potential for providing public outdoor recreation opportunities; and (d) assistance to State and local agencies in making application for Federal surplus property and the preparation of plans and project applications, as appropriate, for the use of Fund monies to develop facilities, or to secure additional lands to augment the Federal lands transferred to them.

Cost Factors: 39 filled permanent positions at an annual cost of $20,560 each, $802,000; materials, equipment, travel and other costs related to these positions, $237,000; contractual services, $951,000; total, $1,990,000.

Program Description

State Assistance

Section 6(d) of the Land and Water Conservation Fund Act requires a statewide comprehensive outdoor recreation plan (SCORP) as a prerequisite for State participation in the Land and Water Conservation Fund program. All States continue to update and improve their SCORPs in order to provide guidance for the wise expenditure of available funds and to maintain eligibility to receive acquisition and development grants from the Fund. The plans and planning programs are continually monitored and reviewed by Bureau staff for their adequacy as a guide to outdoor recreation actions within the State. Useful, high quality plans are a prerequisite for continued participation in the Fund program.

The Bureau has initiated several changes in planning procedures. Increased public participation is being emphasized. A structured analysis process using an objective setting approach to planning will also be implemented to strengthen the SCORP program. The adoption of a universal data base system is now underway and will result in more accurate data streams to evaluate outdoor recreation demands and needs. These changes are resulting in greatly improved plans, but also require considerably more BOR manpower.

Timely preparation and review of these plans and programs is essential to the successful continuance of the Fund program. Currently, 30 States are on continuing eligibility which requires frequent monitoring of their planning programs and the processes by the Bureau to ensure that they are conforming to to program and schedule they have submitted to maintain eligibility. During FY 1978, 15 States must submit completed plans for review. Plans will be coordinated with other programs requiring State plans such as the land use element of the Comprehensive Planning Assistance Program ("701 Planning Program") of HUD, the Areawide Waste Treatment Management Plans under section 208 of the Federal Water Pollution Control Act administered by EPA, and the Coastal Zone Management Act of 1972 administered by NOAA. These associated plans are due in FY 1978 and 1979 and will require input from the complete coordination with the State's outdoor recreation plans.

The Act authorizes financial assistance for planning, acquisition and development projects. The requested $351.6 million under the increased authorization will allow State and local governments to meet their recognized demand for recreation areas and facilities. This funding level represents a

two-fold increase over the amounts previously available to State and local governments. An increase of this magnitude requires enlargement of the Bureau's administrative responsiveness and thus its manpower, to provide adequate program guidance and assistance. The Bureau expects to review, evaluate, and process approximately 5,000 projects (an increase in processing workload of 2,500 projects per year) and 3,000 project amendments submitted by States during FY 1978. The number of preapproval site inspections will more than double to approximately 700. In addition to reviewing proposed projects to determine that they conform to the statewide comprehensive outdoor recreation plans, program criteria and policy, the Bureau must also allocate additional manpower to ensure that the increased number of proposed projects comply with and are coordinated with other related Federal acts and programs such as:

(1) The Architectural Barriers Act of 1968 (P.L. 90-480)
(2) The Historic Preservation Act of 1966 (P.L. 89-665), the Archeological and Historic Preservation Act of 1974 (P.L. 93-291) and Executive Order 11593 relative the protection and enhancement of the cultural environment;
(3) The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646);
(4) The National Environmental Policy Act of 1970 (P.L. 91-190);
(5) Title VI of the Civil Rights Act of 1970 (P.L. 88-352);
(6) Title VII of the Civil Rights Act of 1964 (P.L. 88-352), Executive Order 11246 relative to equal employment opportunity, and implementing rules and regulations of the Secretary of Labor;
(7) The Flood Disaster Protection Act of 1973 (P.L. 93-234), and Executive Order 11296 relative to the evaluation of Flood Hazards;
(8) 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;
(9) OMB Circular A-95 relating to the evaluation review, and coordination of Federal and Federally assisted programs and projects;
(10) Endangered Species Act of 1973 (P.L. 93-205);
(11) Joint Funding Simplification Act of 1974 (P.L. 93-510);
(12) Federal Water Projects Recreation Act of 1965, as amended (P.L. 89-72).

The workload will also greatly expand as the new projects add to the compliance inspection responsibilities of the Bureau. The Bureau administers an estimated 6,200 active projects to ensure continued compliance with the above mentioned Acts and directives and the terms of the grant agreement. An additional 10,500 completed projects must be inspected periodically to assure compliance with the terms of the project agreement. It is expected that 1,400 of these will be inspected in FY 1978 for an increase of 500 over the FY 1977 program. Also, the number of appraisal spot checks will be increased from 240 to 450. As the total number of projects increase each year, the compliance workload of the Bureau increases correspondingly. Although the period between compliance inspections has been lengthened and the Bureau has shifted more of the field inspection workload to the States, additional manpower will be required to continue the Bureau's overview function as the program expands, and to catch up on backlog.

Recent internal audits of the Bureau's administration of the Land and Water Conservation Fund program indicate that the Bureau must strengthen its commitment to program management in the aforementioned areas of project review, post-approval project administration, and post-completion project compliance. The Bureau runs the risk of losing program accountability if such measures are not taken.

There will be no additional paperwork burden on the States or their political subdivisions beyond the current requirements for preparation of project and associated documents, environmental assessments and payment claims for work in place. The Bureau's paperwork requirements for this program are among the most minimal of any Federal grant assistance program.

Environmental reviews will increase proportionately to the increase in project workload. Approximately 500 environmental assessments provided by the States will have to be revised and the preparation of Environmental Impact Statements is expected to more than double. Since there will be an increase in the number of larger projects and an increase in the number of controversial projects, manpower needs to handle the increased workload of environmental review will exceed current resources.

With a two-fold increase in the amount of assistance available to State and local governments, there will be an increase in the number of project applicants who will seek all or a portion of their matching share through other Federal assistance programs that provide a supplemental funding source. At the present time, there are eight such programs which can legally provide increased Federal assistance above the 50 percent share authorized by the Fund. These include financial assistance programs administered by the Appalachian Regional Commission; five Regional Action Planning Commissions, Economic Development Administration; Department of Housing and Urban Development; Office of Revenue Sharing, and Department of Defense. Coordination activities required to provide supplemental funding will have a direct impact on the Bureau's manpower needs.

Many specialized areas of program administration will increase substantially with the enlarged Fund assistance available to State and local governments. Increased land acquisition will require more manpower to assure that appraisals and acquisition procedures are in conformity with Federal requirements. The Bureau's responsibility regarding equal employment opportunity contract compliance will significantly increase with the number of development projects. With the increased number of projects being added to those already approved, the incidence of conversion requests will undoubtly rise. Added manpower will be required to review and evaluate approximately 150 such requests.

The Bureau must also help the States meet their increased program responsibility through more frequent program reviews and closer liaison with State officials to promote uniformity in the administration of the Fund program. Approximately 60 program reviews will be conducted. Also, as funding for local projects increases, the need for technical assistance will increase proportionately. The greater number of projects will increase the interest of local units of government in developing acquisition strategies, and encouraging private donations which can be used as the local matching share.

Additional Bureau manpower will also be required to update and revise publications which explain the new legislation affecting both grants and planning. There will be an increase in news stories regarding specifics of individual grants as a direct result of the doubling of projects in the initial year that increased Fund monies are made available. A similar increase in correspondence from the Congress, the general public, and special interest groups is anticipated due to the larger number of projects generated. Responses will be made to approximately 4,000 Congressional and public inquiries which is more than double the current workload.

Increased manpower will be required to process, record and report on State project agreements, amendments and fund balances and to disburse funds to State for work in place and associated costs, including an estimated 10,000 additional documents for a total of 26,000 annually; to process purchase orders and account for the goods and services needed; and to provide personnel services needed to recruit, train and maintain staff to administer the expanded Fund.

Project related and supportive planning and technical assistance is provided States in developing State Wild and Scenic River Systems and/or the preservation of rivers or river segments. Such assistance includes development of criteria to identify rivers worthy of protection, inventory and classification of rivers, methods of preservation and encouragement to seek designation of qualified rivers as components of the National Wild and Scenic Rivers Systems.

To meet demonstrated trail needs and to identify new opportunities to expand the supply of trails, the Bureau provides planning and technical assistance to State and local governments. It encourages the development of State and Regional trail councils with the ultimate goal of achieving the establishment and development of State and Regional Trail Systems. It also assists in identifying opportunities to develop specific trails and encourages their nomination as National Recreation Trails in the National Trail System.

Both of the forgoing programs result in the development and enhancement of rivers and trails programs to meet local, State and regional needs thus reducing pressures for direct Federal efforts to provide for these programs. It is anticipated that the increased availability of funds from the expanded Land and Water Conservation Fund will result in greater interest on the part of State and local governments in implementing programs of this nature.

The Bureau seeks to ensure that water resources conservation and development projects of the Federal government and those requiring a Federal action, license, or permit, give adequate consideration to public outdoor recreation needs. The Federal Water Project Recreation Act (P.L. 89-72), requires that planning shall be based on the coordination of the recreational use of the project area with the uses of existing and planned Federal, State, or local public recreation developments. This necessitates close working relationship with State Liaison Officers (SLO) to ensure that the Statewide Comprehensive Outdoor Recreation Plans (SCORP) identify future needs and include existing and planned projects of all governmental agencies. The Bureau's investigations program utilizes SCORP data and provides input in the form of planning information to update the SCORP. There are many instances where the project does not of itself provide recreation opportunity but does create the potential for significant recreation use enhancement. In such cases these opportunities are considered as planning alternatives and State and local governments are encouraged to utilize LWCF assistance in realizing the potentials.

The Bureau identifies potential conflicts between proposed water developments and existing recreation areas which were established with assistance from the LWCF. When project modification is not feasible the Bureau takes appropriate action in concert with the State to resolve conflicts in accordance with section 6(f) of the LWCF Act.

In planning and in reviewing reports on water developments, the Bureau ensures that proposed recreation developments conform to and are in accord with the SCORP. This requires close coordination with the SLO and at times amendment of the SCORP. The findings of these reviews are reported to the Congress in accordance with section 6(a) of P.L. 89-72.

The Bureau provides assistance in working out agreements with Federal agencies for State and local agency administration of underutilized lands with potential for providing outdoor recreation opportunities for the public. The Bureau will be involved in working out an estimated 28 such working agreements.

The Bureau provides planning and technical assistance to States, local governments and the private sector with the result that measurable increases in recreation areas, facilities and opportunities are obtained with a minimum of Federal expenditure.

Significantly, there is a direct relationship between the Bureau's technical assistance program activities and the Land and Water Conservation Fund. The increases in State apportionments from the Land and Water Conservation Fund for development will encourage States and local governments to make application for an increased number of surplus Federal real properties for park and recreation purposes and historic monument purposes. 100 applications were processed in FY 1976. It is projected that 120 applications will be processed in FY 1977 and 160 in FY 1978, the increase being directly due to the Fund increase.

The Bureau's technical assistance program encourages private interests desirous of providing public recreation opportunities to cooperate with State and local governments in dedicating areas for public use. Through the Bureau's program efforts in FY 1976 real estate valued at $9 million was dedicated to public park use; lands worth $10 million are expected to be dedicated in FY 1977; and, with the increased availability of Land and Water Conservation Funds for development it is projected that lands worth $15 million will be dedicated.

B. Federal Programs

Fiscal year 1977, $714,000; fiscal year 1978, $864,000; increase of $150,000.

Major Program Changes

(1)	Increased funds required to further develop and implement a priority funding allocation system for the Federal portion of the L&WCF.	+$150,000; total $150,000 + 2 positions; total 2 positions.

Proposal: Expand upon initial efforts begun in FY 1977 to evaluate annual budget proposals for Federal L&WCF acquisitions at authorized areas based upon priority acquisition criteria. The analysis will focus on determining efficient L&WCF investments through uniform comparisons of annual acquisition programs.

Justification: Increased funds are necessary because of the need to carry out further development and implementation of the priority acquisition system. These additional funds will allow the Bureau to provide more complete data concerning the merits of the various acquisition program data put forth by the acquiring agencies.

Cost Factors: Two permanent positions at an annual cost of $20,600 each, $41,000; materials, equipment, travel and other costs related to these positions, $13,000; contractual services, $96,000; total, $150,000.

Program Description

Federal Programs

The Federal land acquisition programs under the Fund are coordinated through the Bureau's seven Regional Offices with policy, budget and liaison staff in Washington. The primary programs are as follows:

--Evaluation of authorized areas in terms of priority acquisition funding within the annual fiscal resources. Areas are compared on a selected criteria basis to ascertain that the highest priority acquisitions are funded. As the Bureau of Outdoor Recreation is not in competition for land acquisition funds, it is able to make unbiased recommendations for determining priority of areas to be funded and the amount of funds for each area. However, for the Bureau to make such recommendations on the areas submitted for consideration, the Bureau must be knowledgeable about the areas. Two hundred areas are requested to be evaluated for funding in the fiscal year. The Bureau needs to have adequate field knowledge about all of these areas to make proper recommendations.

--Evaluation of new areas and proposed legislation. Proposed legislation for new parks, recreation areas, endangered species areas or increases in ceiling authorization for established areas are evaluated to determine the impact on the Fund. As a result of the ongoing urban study required by the recent amendment of the L&WCF Act, it is anticipated that several of the study sites will be found to be deficient in recreation opportunities. Recommendation of Federal involvement in providing opportunities in some of these areas is expected. The number, magnitude and administration of areas cannot be determined at this point in the studies. The Bureau normally reviews about 100 pieces of legislation in the fiscal year.

--Participation in the Land Planning Group (LPG). The Bureau chairs and provides staff services for this coordinating group. Proposals for new and existing areas which might involve the expenditure of monies from the Federal portion of the Fund are reviewed and priorities recommended. LPG also reviews and makes recommendations as to the annual budget for Federal acquisition. An average of 14 meetings are held each year.

--Assistance to 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 approval by the Bureau of Outdoor Recreation 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 L&WCF. In particular, we expect to coordinate planning with FWS as their endangered species program develops. Also, with the passage of P.L. 94-579, the Organic Act for BLM, a composite-type program will be examined to assess future acquisition needs of BLM. The Bureau will review about 220 agency acquisition plans in the fiscal year.

--Development of a consolidated Five-Year Acquisition Plan. This Plan identifies authorized areas to be acquired within a five year period. In addition, with the cooperation of the four agencies, the Bureau prepares the annual Land and Water Conservation Fund fiscal year budget and manages the program in terms of obligations and impact on expenditures.

--Coordination of State and Federal agencies in development of State Comprehensive Outdoor Recreation Plans (SCORPs). The Federal agencies provide recreation opportunities to Regional, State and local as well as interstate consumers. To provide the most accurate and comprehensive SCORP possible, the Federal area supply and demand data is included through Bureau cooperative efforts. Also, needs and priorities of the SCORP are considered in the planning and managing of Federal areas in the State. About 10 SCORPs will be reviewed in the fiscal year plus the coordination of the 220 agency plans with the SCORPs.

--Review of Environmental Statements and Reports. Statements and reports concerning areas funded with the Federal portion of the L&WCF and other statements concerning land acquisition and recreation management by the Federal agencies using L&WCF are reviewed and comments are provided. Seventy-five EISs and Reports will be reviewed during the year.

--Processing reprogramming actions. Reprogrammings up to $100,000 are submitted to the Bureau for approval; those over $100,000 are evaluated by the Bureau and submitted to Congressional Committees for approval. An average of 10 reprogrammings will be reviewed during the year.

C. GSA Space Costs.

For rate increase in FY 1978, $47,000; for unfunded increased costs of previous years, $42,000; for expansion, $76,000; total, $165,000.

DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
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 [$6,686,000] $9,229,000 for administrative expenses of the Bureau of Outdoor Recreation 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, not to exceed [$397,056,000] $600,000,000, of which (1) not to exceed [$175,516,000] $351,635,000 shall be available for payments to the States in accordance with section 6(c) of said Act; (2) not to exceed [$144,603,000] $142,995,000 shall be available to the National Park Service; (3) not to exceed [$52,506,000] $67,063,000 shall be available to the Forest Service; (4) not to exceed [$15,745,000] $26,978,000 shall be available to the United States Fish and Wildlife Service; and (5) not to exceed [$2,000,000] $2,100,000 shall be available to the Bureau of Land Management. (Department of the Interior and Related Agencies Appropriation Act, 1977.

DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
LAND AND WATER CONSERVATION FUND

Program and Financing (in thousands of dollars)

Identification code 14-5005-0-2-303	1976 actual	TQ actual	1977 estimate	1978 estimate
Program by activities:				
1. Assistance to States.....	157,040	43,394	180,000	200,000
2. Federal programs.....	115,950	41,043	235,946	245,436
3. Administrative expenses..	6,445	1,395	6,924	9,229
Total program costs....	279,435	85,832	422,870	454,665
Change in selected resources (undelivered orders).....	20,412	-13,423	1,130	124,335
10.00 Total obligations.....	299,847	72,409	424,000	579,000
Financing:				
21.40 Unobligated balance available, start of period: Appropriation.....	-64,821	-81,960	-65,421	-38,477
24.40 Unobligated balance available, end of period: Appropriation.....	81,960	65,421	38,477	59,477
Unobligated balance lapsing:				
25.40 Appropriation.....	--	118	--	--
25.49 Contract authority.....	30,000	--	30,000	30,000
Budget authority.....	346,986	55,988	427,056	630,000
Budget authority:				
40.00 Appropriation (special fund)	316,986	75,988	397,056	600,000
41.00 Transferred to other accounts	--	-20,000	--	--
43.00 Appropriation (adjusted)	316,986	55,988	397,056	600,000
69.10 Contract authority (permanent) (substantive law) (16 U.S.C. 4601-10a)...	30,000	--	30,000	30,000
Relation of obligations to outlays:				
71.00 Obligations incurred, net.	299,847	72,409	424,000	579,000
Obligated balance, start of period:				
72.40 Appropriation.....	438,121	462,021	448,804	450,804
72.49 Contract authority.....	20,000	20,000	20,000	20,000
Obligated balance, end of period:				
74.40 Appropriation.....	-462,021	-448,804	-450,804	-586,804
74.49 Contract authority.....	-20,000	-20,000	-20,000	-20,000
90.00 Outlays.....	275,946	85,627	422,000	443,000

DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
LAND AND WATER CONSERVATION FUND
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 14-5005-0-2-303	19 76 actual	19 TQ actual	19 77 estimate	19 78 estimate
BUREAU OF OUTDOOR RECREATION				
Personnel compensation:				
11.1 Permanent positions	4,080	906	4,400	5,169
11.3 Positions other than permanent	121	36	231	231
11.5 Other personnel compensation	9	1	9	9
[illegible]				
Total personnel compensation	4,210	943	4,640	5,409
Personnel benefits:				
12.1 Civilian	404	90	440	514
[illegible]				
21.0 Travel and transportation of persons	258	66	320	375
22.0 Transportation of things	5	--	5	6
23.1 Standard level user charges	407	110	438	538
[illegible] Rent, communications, and utilities	267	61	267	313
23.2 Other/				
24.0 Printing and reproduction	110	52	94	127
25.0 Other services	559	172	960	1,832
26.0 Supplies and materials	82	27	82	96
31.0 Equipment	16	28	16	19
[illegible]				
[illegible]				
41.0 Grants, subsidies, and contributions	162,803	31,381	179,628	330,635
42.0 Insurance claims and indemnities	17	--	--	--
[illegible]				
[illegible]				
[illegible] Total obligations, Bureau of Outdoor Recreation	169,138	32,930	186,890	339,864

DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
LAND AND WATER CONSERVATION FUND

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 14-5005-0-2-303	1976 actual	19TQ actual	1977 estimate	1978 estimate
ALLOCATION ACCOUNTS				
Personnel compensation:				
11.1 Permanent positions	8,200	2,407	10,086	9,812
11.3 Positions other than permanent	1,392	470	942	1,195
11.5 Other personnel compensation	22	38	28	28
11.8 Special personal services payments	1	--	--	--
Total personnel compensation	9,615	2,915	11,056	11,035
Personnel benefits:				
12.1 Civilian	999	308	1,176	1,180
13.0 Benefits for former personnel	6	1	--	--
21.0 Travel and transportation of persons	616	234	1,157	955
22.0 Transportation of things	164	71	460	331
23.1 Standard level user charges	429	47	771	853
23.3 Rent, communications, and utilities	160	84	312	271
23.2 Other/				
24.0 Printing and reproduction	73	18	245	217
25.0 Other services	7,219	2,816	5,894	7,509
26.0 Supplies and materials	270	108	649	583
31.0 Equipment	132	69	234	213
32.0 Lands and structures	110,459	32,641	211,461	213,194
[illegible]				
41.0 Grants, subsidies, and contributions	419	72	3,700	2,800
42.0 Insurance claims and indemnities	151	95	--	--
[illegible]				
[illegible] Subtotal	130,712	39,479	237,115	239,141
95.0 Quarters and subsistence charges	-3	--	-5	-5
Total obligations, allocation accounts	130,709	39,479	237,110	239,136
99.0 Total obligations	229,847	72,409	424,000	579,000

DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
LAND AND WATER CONSERVATION FUND
Personnel Summary

Identification code 14-5005-0-2-303	19 76 actual	19	19 77 estimate	19 78 estimate
BUREAU OF OUTDOOR RECREATION				
Total number of permanent positions	236		233	277
Full-time equivalent of other positions	14		25	25
Average paid employment	230		238	279
Average GS grade	9.58		9.57	9.57
Average GS salary	$18,020		$18,871	$18,821
ALLOCATION ACCOUNTS				
Total number of permanent positions	508		567	558
Full-time equivalent of other positions	114		105	125
Average paid employment	606		662	687
Average GS grade	8.78		8.78	8.69
Average GS salary	$16,003		$16,154	$15,750

Department of the Interior
Bureau of Outdoor Recreation
General Administrative Expenses (Non-Add Program)

General Administrative Expenses: Fiscal year 1977, $4,245,015; fiscal year 1978, $4,577,015; increase $332,000. This program is a non-add item for which funds are included with the appropriations requested for operating programs of the Bureau.

I. Description of Program.

A. Program Element Table (Funding):

Element	FY 1977 Amount Available	FY 1978 Estimate	(+) or (-) change FY 1977 to FY 1978
1. Executive Direction....	$ 829,105	$ 829,105	-
2. Administrative Services	3,415,910	3,747,910	$+332,000

B. Program Element Table (Staffing):

Element	FY 1977 Positions	FY 1978 Positions	(+) or (-) change FY 1977 to FY 1978
1. Executive Direction....	26	26	-
2. Administrative Services	75	77	+2

C. Program Synopsis (by element):

1. Executive Direction - This program element included the directorate level positions in the Washington and seven Regional Offices and secretarial support positions and associated office operating costs for travel, supplies, and materials, etc.

a. Major Program Changes: - None
b. Program Description: Directorate level positions are responsible for planning, developing, funding, executing, evaluating and adjusting Bureau programs to meet Congressionally mandated objectives and for conformance with Executive Branch policies, priorities and regulations. The Assistant Directors and Regional Directors serve as the principal managers of the Bureau's programs and are accountable to the Director or Deputy Director for accomplishment of the annual program operating objectives, within the funds and manpower available. The directorate level positions represent the Bureau and its recreation and conservation program interests with 16 major Federal departments and agencies which administer over 290 programs of assistance to outdoor recreation, the Congress, State and local governments, national and international organizations with wide interests in outdoor recreation, resource management and conservation, environmental matters, the private sector and the general public.

2. Administrative Services - This program element covers general administrative support activities for all Bureau programs at seven Regional and the Washington Offices. This element includes costs which are not readily identified with a program area or function and which are often funded on a clearing account basis, e.g., personnel management, financial management and operations, contracting and general services, records and communications, management improvement and equal employment opportunity.

A. Major Program Changes:

(1) Additional services commensurate with increased program levels and for uncontrollable cost of doing business increases.	$332,000, Total $3,747,000 +2 positions; 77 total positions.

(a) Proposal: To provide for additional office space for new staff to administer the enlarged LWCF and Salaries & Expenses program; to meet rising and uncontrollable cost of doing business items; and to provide additional administrative services.

(b) Justification: Additional field office space will be needed to house the additional program staff to administer the enlarged LWCF and Salaries & Expenses programs. Additional funds are needed to cover a 6% increase in cost of existing bureau office space, and for uncontrollable cost of doing business items such as air fares, per diem, and postage. Increases are also needed to fund two additional program support staff to provide recruitment, training, organizational planning and development and procurement services.

B. Program Description: The objectives of the program are to: (1) facilitate accomplishment of management goals by providing efficient, effective administrative support services; (b) provide a modern and effective financial management and accounting system that is responsive to management needs; (c) improve and maintain an efficient property management and accounting program to ensure proper care and maintenance and maximum utilization; (d) provide a strong personnel management system designed to ensure the best work force possible and to fairly, adequately and efficiently serve to protect the interests of the Bureau and to protect and promote the welfare of each individual employee; and (e) provide fund control procedures for Bureau funds to ensure their proper use and to provide appropriate reports of accountability to proper authorities. The bulk of the administrative services are performed in the Washington office for the Bureau as a whole. These include: financial, personnel, property, procurement, legislative coordination, communications, servicing congressional correspondence and ADP systems programming.

II. Distribution of Additions to Appropriated Accounts.

General Administrative Expenses are costs which because of their nature are not readily identifiable in measurable terms as having benefited an activity or subactivity. However, management and administrative services do impact on all Bureau programs in terms of effective and efficient operation and accomplishment. Accordingly, the cost of such services are financed by the distribution as a prorata increment to and included in Bureau appropriation requests for the following activities and subactivities and appropriation:

	FY 1977	FY 1978
Salaries and Expenses		
Planning and Research		
Nationwide Planning		$ 38,180
Water Resources and Resource Area Studies	$ 997,580	$1,002,165
Research and Education	39,900	32,475
Subtotal, P & R	$1,037,480	$1,072,820
Federal Coordination	498,790	484,550
Technical Assistance	458,890	410,745
Total, S & E	$1,995,160	$1,968,115
L&WCF		
Assistance to States	$2,024,870	$2,348,010
Federal Programs	224,985	260,890
Total, L & W	$2,249,855	$2,608,900
Total, GAE	$4,245,015	$4,577,015

83-561 O - 77 - 20

DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
CONSOLIDATED SCHEDULE OF PERMANENT
POSITIONS PAID FROM FUNDS AVAILABLE TO
THE BUREAU OF OUTDOOR RECREATION
DETAIL OF PERMANENT POSITIONS

	1976 actual	1977 estimate	1978 estimate
GS-18	1	1	1
GS-17	--	--	1
GS-16	3	3	2
GS-15	21	20	20
GS-14	36	35	35
GS-13	49	49	51
GS-12	68	66	75
GS-11	74	73	92
GS-10	1	1	1
GS-9	42	41	50
GS-8	11	11	11
GS-7	49	50	57
GS-6	33	29	31
GS-5	43	46	49
GS-4	25	24	26
GS-3	13	13	13
GS-2	4	3	3
Total permanent positions	473	465	518
Unfilled positions, end of year	-52	-38	-41
Total permanent employment, end of year	421	427	477

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

FISH AND WILDLIFE SERVICE

DEPARTMENT OF THE INTERIOR

U.S. FISH AND WILDLIFE SERVICE

Highlight Statement

The main goal of the U.S. Fish and Wildlife Service is to perpetuate the Nation's fish and wildlife resources and their use and enjoyment by the American people. To help fulfill this goal, the Service proposes a budget in which the major areas of emphasis in the Resource Management appropriation are:

- The Bicentennial Land Heritage Program for national wildlife refuges
- Cyclical maintenance for wildlife refuge facilities, research stations, and fish hatcheries
- Habitat preservation
- Endangered species.

Bicentennial Land Heritage Program - $+7.0 million.

Due to a lack of funding and personnel, the refuge system has fallen into a state of disrepair and is producing only a fraction of the total benefits to people and wildlife which are within its capability. To overcome many deficiencies, the budget proposes substantial operation and maintenance increases.

Important factors indicating the need for the requested increase include:

-- Visitation, expected to reach 30 million in 1977, has quadrupled in 20 years.

-- Refuge acreage has doubled in the same period.

-- Staffing of refuges has not changed in the last 10 years.

-- Facilities, many built in the 1930's, have deteriorated.

An increase of $7.0 million will be used to fund 407 new positions, $4.6 million for migratory bird refuges, $.8 million for mammal and nonmigratory bird refuges, and $1.6 million for interpretation and recreation.

In addition to the increase in FY 1978, an additional $7 million for the Bicentennial Land Heritage Program is being forwarded as a FY 1977 supplemental request.

Cyclical maintenance for Service facilities - $+6.0 million.

Wildlife refuge, fish hatchery, and research installations need a source of annual funds for accomplishing cyclical maintenance work. A total of $6.0 million will be used to keep facilities and equipment in good repair through a planned program of scheduled maintenance and replacement. Examples of this work include painting buildings according to a planned schedule, replacing motorized equipment at standard usage intervals, and graveling roads as needed. The funds will be allocated as follows: $2.0 million to fishery facilities and $4.0 million to wildlife facilities.

The Government has $500 million invested in Service facilities and equipment. These include 5,500 miles of roads, 5,000 structures ranging from small sheds to large visitor centers and research stations, 22,000 miles of dikes and levees, 7,300 miles of fence, and a large complement of equipment. In the past, the Service has not been able to keep the level of cyclical maintenance on these facilities high enough to adequately protect their useful life expectancy and operational effectiveness. Prolonged deferment of cyclical maintenance has resulted in a $70 million requirement for facility rehabilitation on wildlife refuges along. With the above funds, a maintenance program can be instituted aimed at promoting occupational safety, improving efficiency and effectiveness of Service facilities and equipment, and providing visitors to Service installations with safe, wholesome, pleasant surroundings.

Habitat preservation - $+5.5 million.

The Service critically examines the impact of proposed land and water resource development on fish and wildlife habitat and assists in planning those projects to minimize habitat degradation. The need for these assessments, as well as for the development of biological information, has been greatly amplified by deteriorating environmental quality and the resultant passage of Federal, State, and local environmental legislation.

The requested increase will be used as follows:

-- Environmental contaminant evaluation ($+1.5 million).

The problems of environmental contaminants are massive and accelerating with new sets of questions continually arising. The Service must determine effects of contaminants and their interactions on wildlife to protect the resource, whether as species, populations, or entire ecological communities. This is the Service's role as opposed to the Environmental Protection Agency's role, which is heavily oriented toward registration.

-- Land and water resource development planning ($+.5 million).

A new general permit program for minor projects in navigable waters will be developed and implemented in conjunction with the Corps of Engineers. Permit-issuing agencies will be able to evaluate, in the aggregate, during a brief review period, the probable impacts of numerous potential projects on a given segment of waterways. Under the ecological planning and evaluation procedure program, a single, uniform system will be designed for measuring the full impact on fish and wildlife resources and their habitat of water and related land resource projects that are conducted under Federal auspices or permits.

-- Biological services ($+3.4 million).

Research, baseline studies, and planning are directed toward selected environmental issues of critical importance. Funds are needed to strengthen the capability of the Service to provide ecological information needed in connection with the accelerated development of coal resources and to insure that better ecological input will be available for all aspects of power plant siting, construction and operation. The national wetland inventory project will continue in the operational classification and mapping of wetlands. The habitat classification and analysis project will develop uniform, systematic techniques and programs for classifying, inventorying, and assessing fish and wildlife and habitat facing major environmental impact changes. Finally, the Service has many needs for information about coastal resources and environmental impacts for use in permit reviews under the Fish and Wildlife Coordination Act, participation in Outer Continental Shelf development, work in cooperation with coastal zone management agencies, and other operations.

Endangered species - $+2.9 million.

Funds are needed for the recently authorized expansion of this evolving program, including requirements to acquire a botanical expertise and plant management capability for the endangered plants program. Funds are also required to identify additional animals and plants that are in danger of extinction or threatened with endangerment, consult with other Federal agencies whose activities may either jeopardize the continue existence of the listed species or adversely modify their critical habitats, and implement priority recovery actions under completed recovery plans.

Other significant increases.

- Reactivate the Service's Refuge Manager Training Academy and train refuge personnel in law enforcement ($356,000)
- Accelerate resource studies and surveys in connection with the Alaska Native Claims Settlement Act ($320,000)
- Increase operational support of mammal damage control operations in the western States ($1,100,000) to replace FY 1977 transfer funds.
- Step up fishery related research on disease, diets, genetics, and environmental contaminants ($455,000)
- Operate new hatcheries at White River, Vermont and Green Lake, Maine ($420,000).

Significant decreases in Resource Management include:

- Cease financing the gathering of salmon and steelhead biological data by Washington State in relation to assuring Indian treaty fishery rights ($-2,057,000)
- Eliminate the grant-in-aid program to States for financing endangered species protective cooperative agreements ($-1,000,000).

Program supplemental requests under the Resource Management appropriation for FY 1977 submitted with this budget are as follows:

-- Improved operation and maintenance of national wildlife refuges as part of the Bicentennial Land Heritage Program ($7,000,000)

-- Preparation of court-ordered environmental impact statements on the effects of grazing on three western game ranges ($1,025,000).

The Construction and Anadromous Fish appropriation is $12,692,000. This is a decrease of $4,519,000 from the amount appropriated in FY 1977. A supplemental request for $264,957,000 in FY 1977 related to the Bicentennial Land Heritage Program is being submitted with the FY 1978 budget. Funds for FY 1978 will provide for: remodeling the laboratory building at Leetown, West Virginia ($750,000); rehabilitation of the saltwater system at the Western Fish Disease Laboratory ($75,000); purchasing of vacuum devices for pollution abatement at forty fish hatcheries ($300,000); and rehabilitation of facilities such as roads, buildings, water control structures, and public use facilities at approximately fifty national wildlife refuges ($8,005,000).

The $3,522,000 requested for the andromous fish program will fund the Federal share of seventy-eight projects in twenty-six States.

The Migratory Bird Conservation Account request is $22.0 million, an increase of $6.0 million. However, no request is made for an advance from the Wetlands Loan Fund ($-4.0 million).

A significant increase ($+10.0 million) is anticipated from receipts from the Migratory Bird Conservation Stamp. In accordance with the President's message at the signing of the Wetland Loan Extension Act on February 17, 1976, the Service is proposing legislation that would allow the Secretary of the Interior to set the duck stamp prices, based on land values, and other program costs. It would also require hunters of all ages to possess a duck stamp while hunting waterfowl.

Wetlands and associated habitat constitute the principal constraint on several important waterfowl species or population components. Emphasis is on acquiring habitats most critical (i.e., breeding and wintering) and threatened with near term loss if not acquired by the Service. Waterfowl land acquisition is high priority because habitat destruction is, for practical purposes, irreversible, thus reducing total carrying capacity for the existing habitat. Delay in acquisition will result in significant habitat reductions and subsequent declines in waterfowl population levels.

Status of authorizations.

The following Fish and Wildlife Service authorizations expire during FY 1977:

-- San Francisco Bay National Wildlife Refuge (16 U.S.C. 668ff-668jj; 86 Stat. 399). Section 5 of June 30, 1972 Act (PL 92-330) authorized appropriations through FY 1977.

-- Great Dismal Swamp National Wildlife Refuge (88 Stat. 801). Section 4(a) of June 30, 1972 Act (PL 93-402) authorizes appropriations to carry out the Act through FY 1977.

-- Seal Beach National Wildlife Refuge (16 U.S.C. 668dd Note. 86 Stat. 633). Section 4 of August 29, 1972 Act (PL 92-408) authorizes appropriations through FY 1977.

-- Marine Mammal Protection Act of 1972 (16 U.S.C. 1361 et seq.; 86 Stat. 1027). Section 110(c) of PL 92-522 authorizes funds for research through FY 1977 and section 114(b) authorizes appropriations for administration of the Act through FY 1977.

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

Budget Authority
(in thousands of dollars)

Account and Functional Code		1976 Estimate	1977 Estimate	1978 Estimate
Federal Funds				
General & Special Funds:				
Resource Management	303	120,750	128,861 7,000 b/ 5,210 a/	155,628
Construction and Anadromous Fish	303	19,311	17,211 264,957 b/	12,692
Migratory Bird Conservation Account				
Advance appropriation	303	7,500	4,000	....
Receipts	303	13,930	12,000	12,000
Proposed legislation	303	....	....	10,000
Development and Operation of Recreation Facilities	303	....	....	150
Miscellaneous Appropriations				
Federal Aid in Fish Restoration	303	21,894	20,128	27,394
Federal Aid in Wildlife Restoration	303	63,047	70,607	86,847
National Wildlife Refuge Fund	852	4,837	4,300	4,400
Proceeds from Sales, Water Resources Development Projects	303	57	55	55
Total, Federal Funds, FWS		251,326	534,329	309,166
Trust Funds				
Contributed Funds	303	1,893	2,303	2,500
Total Federal & Trust Funds		253,219	536,632	311,666

a/ Proposed for later transmittal under existing legislation.
b/ Supplemental, additional authorizing legislation required.

FISH AND WILDLIFE SERVICE

Summary by Appropriation and Activity

Appropriation and Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase(+) or Decrease(-) Compared with 1977
A. Resource Management				
1. Habitat preservation	$18,481,274	$26,180,000	$31,668,000	$5,488,000
2. Wildlife resources	54,540,425	62,422,000	76,111,000	13,689,000
3. Fishery resources	26,386,533	27,955,000	29,396,000	1,441,000
4. Endangered species	7,128,428	10,331,000	12,269,000	1,938,000
5. Administration	4,281,118	6,158,000	6,184,000	26,000
6. Unobligated balance lapsing	9,932,222 *	....	....	....
Total, Resource Management	120,750,000	133,046,000	155,628,000	22,582,000
B. Construction and Anadromous Fish				
1. Construction and rehabilitation	15,798,000	13,698,000	9,170,000	-4,528,000
2. Anadromous fish	3,513,000	3,513,000	3,522,000	9,000
Total, Construction and Anadromous Fish	19,311,000	17,211,000	12,692,000	4,519,000
C. Migratory Bird Conservation Account				
1. Loan advance	7,500,000	4,000,000	....	-4,000,000
2. Receipts	13,929,801	12,000,000	22,000,000 **	10,000,000
Total, Migratory Bird Conservation Account	21,429,801	16,000,000	22,000,000	-6,000,000
D. Development and Operation of Recreation Facilities	....	....	150,000	150,000
Grand total	161,490,801	166,257,000	190,470,000	33,251,000

*Unobligated balance carried into the transition quarter. Unobligated balance in the amount of $690,012 on 9/30/76 was lapsed into Treasury and $1,996,397 carried into FY 1977 representing unused portion of the endangered species grant program.

**Includes $10,000,000 in estimated receipts resulting from proposed legislation to increase price of duck stamp.

FWS-6

FISH AND WILDLIFE SERVICE

Resource Management

Appropriation, 1976	$117,746,000	
Lure crop supplemental	150,000	
Game range supplemental	117,000	
Pay act supplemental	2,737,000	
Total appropriation, 1976		$120,750,000
Appropriation, 1977	128,861,000	
Pay cost supplemental	4,185,000	
Total available, 1977		133,046,000

SUMMARY OF INCREASES AND DECREASES, 1978

	Base for 1978	Increase 1978	
Habitat preservation			
Environmental contaminant evaluation	$4,596,000		
Monitoring environmental cont.		$300,000	
PCB research		1,200,000	
Land and water resource development planning	9,541,000		
Development of general permits		200,000	
Measuring impacts of water and related land resource development projects		329,000	
Biological services	9,046,000		
Environmental impacts of coal extraction		700,000	
Power plant siting		200,000	
Habitat classification and other analysis		750,000	
Wetlands inventory		1,000,000	
Participation in Outer Continental Shelf leasing		750,000	
Cooperative units	2,997,000		
GSA space costs		59,000	5,488,000
Wildlife resources			
Migratory birds	34,779,000		
Bicentennial Land Heritage Program		4,600,000	
Cyclical maintenance - wildlife refuges and research facilities		2,100,000	
Refuge employee training		356,000	
Employee compensation payments		396,000	
Marine bird research		182,000	
Law enforcement equipment		175,000	
Mammals and nonmigratory birds	9,960,000		
Bicentennial Land Heritage Program		800,000	
Cyclical maintenance - wildlife refuges and research facilities		400,000	
Alaska Native Claims Settlement Act		320,000	
Animal damage control	10,140,000		
Mammal damage control		1,100,000	
Interpretation and recreation	7,543,000		
Bicentennial Land Heritage Program		1,600,000	
Cyclical maintenance -w/l refuges		1,500,000	
GSA space costs		160,000	13,689,000

	Base for 1978	Increase 1978	
Fishery resources			
Coastal anadromous fish	8,108,000		
Fishery research on disease, diets, and genetics		109,000	
Cease financing data gathering - Judge Boldt decision		-2,057,000	
Columbia River initiative		63,000	
Operations - White River and Green Lake hatcheries		420,000	
Rehabilitation of six hatcheries		140,000	
Cyclical maintenance - hatcheries		621,000	
Great Lakes fisheries	3,287,000		
Fishery research on environmental contaminents, lake trout stocking, and sea lamprey control		146,000	
Increase lake trout production for Lake Ontario		160,000	
Cyclical maintenance - fish hatcheries, research stations		200,000	
Inland fish and reservoirs	16,560,000		
Fishery research - pesticides and drugs		200,000	
Fishery training and testing		185,000	
Cyclical maintenance - fish hatcheries and res. facilities		1,179,000	
GSA space costs		75,000	$1,441,000
Endangered species			
Planning and coordination	4,085,900		
Botanists, listing species, and critical habitat		1,451,000	
Listing species and critical habitat	1,373,700		
Consultation, recovery plan implementation, and plant mgmt.		1,085,000	
Species and habitat management - non Service lands	477,000		
Recovery plan implementation		375,000	
Endangered species law enforcement	2,319,000		
Endangered species grant-in-aid	1,000,000	-1,000,000	
Endangered species research	1,075,400		
GSA space costs		27,000	1,938,000
Administration	6,158,000		
GSA space costs		15,000	
Administration		11,000	26,000
Net Increase, 1978			22,582,000
Budget Estimate, 1978			155,628,000

Resource Management

Analysis by Activities

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase(+) or Decrease(-) i978 Compared with 1977	Page Reference
	(Direct Appropriations)				
1. Habitat preservation	$18,481,274	$26,180,000	$31,668,000	$5,488,000	FWS-12
2. Wildlife resources	54,540,425	62,422,000	76,111,000	13,689,000	FWS-37
3. Fishery resources	26,386,533	27,955,000	29,396,000	1,441,000	FWS-80
4. Endangered species	7,128,428	10,331,000	12,269,000	1,938,000	FWS-97
5. Administration	4,281,118	6,158,000	6,184,000	26,000	FWS-107
Unobligated balance lapsing	9,932,222*	....	....	....	
Totals	120,750,000	133,046,000	155,628,000	22,582,000	

* Unobligated balance carried into the transition quarter.
Unobligated balance in the amount of $690,012 on 9/30/76
was lapsed into Treasury and $1,996,397 carried into
FY 1977 representing unused portion of the endangered species grant program.

Resource Management

Analysis by Activities

Activity	FY 1976 Amount Available	(Direct Appropriation) FY 1977 Total Appropriation	Pay Cost Supplemental	Amount Available
1. Habitat preservation	$18,481,274	$25,458,000	$722,000	$26,180,000
2. Wildlife resources	54,540,425	60,302,000	2,120,000	62,422,000
3. Fishery resources	26,386,533	27,101,000	854,000	27,955,000
4. Endangered species	7,128,428	10,123,000	208,000	10,331,000
5. Administration	4,281,118	5,877,000	281,000	6,158,000
Unobligated balance lapsing	9,932,222*			
Total	120,750,000	128,861,000	4,185,000	133,046,000

* Unobligated balance carried into the transition quarter. Unobligated balance in the amount of $690,012 on 9/30/76 was lapsed into Treasury and $1,996,397 carried into FY 1977 representing the unused portion of the endangered species grant program.

Analysis by Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Permanent Positions	1978 Estimate	Permanent Positions	Increase or Decrease (-) 1978 Compared with 1977	Pos.
1. Habitat preservation							
A. Environmental contaminant evaluation	4,294,000	4,596,000	131	6,096,000	136	1,500,000	5
B. Land and water resource development planning	8,791,000	9,541,000	301	10,070,000	301	529,000	--
C. Biological services	7,934,000	9,046,000	178	12,446,000	178	3,400,000	--
D. Cooperative units	2,840,000	2,997,000	94	2,997,000	94	....	--
E. GSA space costs				59,000		59,000	--
Subtotal	23,859,000	26,180,000	704	31,668,000	709	5,488,000	5
2. Wildlife resources							
A. Migratory birds	32,395,000	34,779,000	1,087	42,588,000	1,352	7,809,000	265
B. Mammals & nonmigratory birds	8,604,000	9,960,000	286	11,480,000	338	1,520,000	52
C. Animal damage control	9,134,000	10,140,000	260	11,240,000	260	1,100,000	--
D. Interpretation & recreation	6,766,000	7,543,000	210	10,643,000	300	3,100,000	90
E. GSA space costs				160,000		160,000	
Subtotal	56,899,000	62,422,000	1,843	76,111,000	2,250	13,689,000	407
3. Fishery resources							
A. Coastal anadromous fish	7,491,000	8,108,000	184	7,404,000	186	-704,000	2
B. Great Lakes fisheries	3,147,000	3,287,000	117	3,793,000	121	506,000	4
C. Inland fish and reservoirs	15,528,000	16,560,000	537	18,124,000	541	1,564,000	4
D. GSA space costs				75,000		75,000	
Subtotal	26,166,000	27,955,000	838	29,396,000	848	1,441,000	10
4. Endangered species	9,486,000	10,331,000	198	12,242,000	203	1,911,000	5
A. GSA space costs				27,000		27,000	
Subtotal	9,486,000	10,331,000	198	12,269,000	203	1,938,000	5
5. Administration	4,340,000	6,158,000	140	6,158,000	140		--
A. Annualize pay raise				11,000		11,000	
B. GSA space costs				15,000		15,000	
Subtotal	4,340,000	6,158,000	140	6,184,000	140	26,000	--
Total, Resource Management	120,750,000	133,046,000	3,723	155,628,000	4,150	22,582,000	427

1. Habitat Preservation: Fiscal year 1977, $26,180,000; Fiscal Year 1978, $31,668,000; increase of $5,488,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) +$1,500,000	+5	$6,096,000	136	Environmental Contaminant Evaluation- monitoring, research.
(B) +529,000		10,070,000	301	Land & Water Res. Dev. Planning - permits & licenses, project investigations
(C) +3,400,000		12,446,000	178	Biological Services - coal, power plants, wetlands inventory, habitat classification, and analysis, coastal ecosystems/ OCS development.
(D)		2,997,000	94	
(E) +59,000		59,000		GSA space costs
+5,488,000	+5	$31,668,000	709	

Program Synopsis

The goal of the Habitat Preservation Activity is the protection and improvement of land and water environments and the living resources they support in order to enhance the quality of human life.

Broad public concern for the quality of the environment is directed to fish and wildlife habitats as well as to the human environment. To be responsive to this concept, the Service must maintain expertise in the field and must exercise leadership throughout the Federal Government and the States. This leadership role is carried out through three programs.

The proposed funding increase of $1,500,000 for the Environmental Contaminant Evaluation Program will be directed toward monitoring and assessment of newly recognized contaminants. A major portion will be for expanding research efforts on the continuing polychlorinated biphenyl problem. Funds will also be used for stream models for assessing warm water stream response to contaminant stress and for a data management system.

For the Land and Water Resource Development Planning Program, the increase of $529,000 will allow development and implementation of the new general permit program for navigable water projects. The increase will also be devoted to a major effort on ecological planning and evaluation procedures designed to implement a single unified system of impact evaluation for resource development projects.

The Biological Services Program increase of $3,400,000 is required to respond effectively with mandatory Service input on nationwide energy and other resource development activities. Another element of the increase is to complete the National Wetlands Inventory on an accelerated schedule in response to other agencies and private organizations' needs for critical wetlands resources information.

A. Environmental Contaminant Evaluation

Fiscal Year 1977, $4,596,000; Fiscal Year 1978, $6,096,000 increase of $1,500,000,

Major Program Changes

(1) Monitoring +$300,000; total $566,120
total 10 positions

Proposal: A coordinated national program for accurately sampling and measuring residues of pesticides and related toxicants in fish and wildlife resources and habitats will be conducted to identify levels and trends of environmental contaminants. Interpretation, based upon the biological significance of the exposure hazard, will apprise the Service of problems and provide information essential for development of management options to minimize hazards. Depending upon availability of analytical methods, emphasis will be focused on monitoring from the EPA list of 65 toxic substances. Electron impact-chemical or atmospheric pressure ionization-mass spectrometry methods will be utilized to provide sensitive analytical capability for industrial chemicals and pesticides as they relate to effects on life processes of fish and wildlife. This will also be an asset for our in-depth investigation of contaminant problems on a watershed basis.

Justification: Results from the National Pesticide Monitoring Program (NPMP) have provided an indicator for detecting levels and trends throughout the U.S. Recently, serious environmental contamination has been identified in samples from 100 NPMP stations as divergent as the Chesapeake Bay tributaries (PCB's and chlordane), the Great Lakes (toxaphene, mirex and PCB's), the Mississippi River system (toxaphene, chlordane, DDT, hexachlorobenzene and PCB's), the Rio Grande (DDT), and the Hudson River (PCB's). These residues and others, such as kepone in the James River, are not easily detected since the contaminants are highly complex substances that require sophisticated analytical (miltiple-ion detection) systems to accurately or adequately identify their components. Improved analytical methods must also be developed to permit selective analysis of classes of contaminants in fish and wildlife such as basic compounds (nitrogen containing herbicides), acidic compounds (phenoxy acids), non-aromatic hydrocarbons, organophosphate and carbamates. Some of these interact in natural processes to form an increasing array of toxic substances for which analytical methods must be developed and multi-chemical exposure of fish and wildlife must be evaluated. Several important areas that are not receiving attention such as cooling towers, water treatment, and chlorination of sewage and industrial wastes consume millions of pounds of chlorine and effect the synthesis of many byproducts that bioaccumulate and have subtle toxic effects. Catalysts and other chemicals used in energy development projects in time leach from soil. It is necessary to assure accurate analytical techniques for these compounds and establish safe allowable concentrations in aquatic ecosystems. The evaluation of multi-chemical exposure of fish and wildlife species to contaminants has recently been initiated with indications that serious additive effects occur causing mortality or other physiological dysfunction.

Application of improved analytical methodology to activities of the cooperative National Monitoring Program would be of considerable benefit to other government agencies and many Service programs including Great Lakes, Coastal Anadromous Fish, Migratory Birds, Mammals and Non-Migratory Birds and the Environmental Contaminant Evaluation programs. Direct benefits will result from regulation and use of pestucides and toxic substances, identification and abatement of pollution, proper identification of limiting factors in resource management and development of options to minimize hazards to fish and wildlife.

83-561 O - 77 - 21

Cost Factors: Six temporary postitions for professional specialists at an average annual salary and benefits cost of $20,000 ($120,000); improved analytical instrumentation and data management systems, $120,000; travel, equipment and materials, $60,000.

(2) Research +1,200,000; total $5,529,880
+5 positions. Total 126 positions

Proposal: Emphasis will be placed on the development of information that will be helpful in coping with the continuing problems with toxic and hazardous compounds which are frequently referred to as PCB's for the term Polychlorinated Biphenyl compounds. This will cover diverse areas such as routes and sinks rates and paths of degradation, and residue dynamics. Efforts will also be directed to the prevention of future PCB-like disasters by conducting acute and long-term studies on the subtle effects on fish and wildlife of proposed PCB substitutes.

Justification: Urban, industrial, agricultural and energy related activities contribute to our water ways and water supplies a myriad of chemical compounds whose structures run the gamut from that of simple straight chain alkyls to complex polycyclic structures. We can only guess at their potential effects on fish and wildlife resources at the present time. Those few laboratory studies already conducted indicate that physiological and behavioral effects, as well as lethality, may be engendered by these toxic substances. The identity of these compounds present and their effects, alone and in combination, must be clarified if we are to understand their impacts on fish and wildlife resources and more intelligently participate in decisionmaking processes related to water-quality and discharge permits.

In the area of PCB's, we find that the environmental accumulation of PCB's has not ceased in spite of Federal and industry efforts to improve the situation. About 400 million pounds of PCB's are estimated as already discarded into the environment. Another 300 million pounds are in industrial use and have a potential use-life of 20 years. Consequently, we must be prepared to deal with PCB's for years to come. A considerable amount of the already discarded PCB's now reside in our lakes, rivers and estuaries. More PCB's constantly find their way into the aquatic environment, and we need to know more about the fate of this material, more about its long-term effects on fish and wildlife resources, and more about its long-term implications with respect to commercial and sport fisheries. Because of the recirculation of PCB's in the Great Lakes, there is a serious question as to whether PCB levels can be lowered in the near future in these lakes and in particular in Lake Mighigan.

More information is needed from various species to detect behavioral changes, as well as toxicological effects, at environmental levels rather than at high dosages. If we are to successfully cope with this problem in the coming years, the residue dynamics and movement of PCB's to their ultimate sink in the ocean also need clarification.

Studies of PCB's in the Mississippi River, now being conducted on a modest scale, will be expanded. Mayflies, an important fish food organism, appear to be a good indicator organism. These studies will be enlarged and extended to explore the use of other indicator food chain organisms such as finger-nail clams. The more toxic PCB analogs will be separated and looked at more closely.

Increased emphasis will also be placed on determining the impact of PCB's on fishery resources in the Great Lakes, the Southeast, the Hudson River, and other Atlantic coastal waters. To better understand PCB effects in stream communities, artificial streams will be prepared and used. The effect of PCB's on terrestrial environment will also be studied.

With the passage of time, pressure will increase to phase in PCB substitutes. If we are to minimize the occurrence of future environmental disasters, then we must prepare now by obtaining adequate and thorough evaluation of the effects of these substitutes on fish and wildlife. As with the PCB's we will undertake to determine chronic effects on behavior and reproduction, effects on fish food organisms, residue dynamics, and fate in the environment. These long term toxicological and ecological studies are required to provide guidelines for safe use or to minimize hazards to fish, wildlife, their habitats and to advise regulatory agencies.

Cost Factors: 5 permanent and 11 temporary positions at an average annual cost for salary and benefits of $20,000 ($320,000); toxicological exposure systems for multiple stress, chemical instrumentation, radioisotope labeled chemicals, equipment and materials, $280,000; data management system, operations and maintenance, $200,000; and contracts for special analysis and computer programs, $400,000.

Program Description - Environmental Contaminant Evaluation.

The Service conducts monitoring studies to determine trends in environmental quality as measured by chemical residues in selected fish and wildlife species; research on adverse contaminant effects in fish, wildlife, and their habitats; and activities related to the preparation and review of Service and Service-sponsored pesticide uses, including training and certification of Service pesticide applicators and technical assistance related to pesticides.

(1) Monitoring and Appraisal — Total $566,120; Total 10 positions

Fish and wildlife provide a sensitive barometer of environmental conditions and an indicator of subtle changes in advance of crises that affect man's health and safety. Representative indicators are being used to detect and measure environmental degradation or enhancement and to quantify environmental pollutants, whether of industrial, agricultural or urban origin, in order to assess trends and to understand the dynamics of pollution control. The significance of pollutant sources and sinks is also indicated by appropriate monitoring.

Appraisal activities are conducted to determine acute and long-term effects pesticides have on fish and wildlife. This portion of the program is concerned with evaluation of chemicals currently being used on terrestrial and aquatic environments. Appraisal functions also involve the renewal each year of pesticide applications made on government properties to determine if they are registered and comply with the Department of the Interior restricted or prohibited list. Pesticide uses are also reviewed to determine if there can be any effect on threatened or endangered species. In addition, integrated chemical practices are reviewed to insure good management techniques through both chemical and non-chemical control.

Accomplishments in FY'76 include:

1. Participated with EPA in a National Monitoring Program that is used to evaluate national pollutant trends. Results of the program have been used by EPA in developing pollutant guidelines.

2. Monitoring studies, to determine toxicant residue levels, have been used by EPA and FDA to assess the potential hazard to humans that consume sportfish and wildlife. (PCB's, DDT, mercury, kepone)

3. An appraisal study involving the use of orthene on spruce budworm was evaluated in the Northeast and elswwhere. This insecticide was compared to dylox, sevin, and sumuithion as to hazards to fish and wildlife and was found to be the most environmentally acceptable chemical for aquatic habitats.

4. In the Northwest, follow-up investigations, conducted on fish and wildlife to evaluate residue level of DDT that was sprayed for tussock moth control in 1975, showed that levels increased by 200 to 300 fold in birds and remained elevated 1 year later. Kestrel eggs showed a 10% thinning.

Benefits: Monitoring and appraisal programs help determine the effects of pollutants on key fish and wildlife animal communities. They provide a relatively rapid assessment of ecological conditions which could lead to early recognition of detrimental environmental changes. They also provide information needed by resource managers and agencies regulating toxic substances in order that proper use of pesticides can be made when necessary.

(2) Research — Total $5,529,880
Total 126 positions

Studies are conducted to determine the impact of pollutants on aquatic and terrestrial environments. Chronic effects are determined with respect to behavior, reproduction, effects on fishes, residue dynamics and fate of the pesticide in the environment.

In addition, improved and new analytical procedures are constantly sought in order to broaden analytical capability and to cope with discovered pollutants. Analytical capability is frequently needed to measure new pollutants at environmental levels so that information can be generated on the nature and mode of exposure, transport, transformation and fate of contaminants.

Accomplishments in FY 1976 include:

1. Studies demonstrated the interaction of toxaphene and vitamin C in fish and the resultant effect on bone formation. Exposure to low levels of toxaphene results in a commonly observed deformation in catfish.

2. The adverse effect of DDT on egg shells is well established. A similar effect by other chlorinated compounds (including PCB's), singly or in combination, was demonstrated.

3. A procedure for removal of dioxins was developed and patented. The procedure is being tested for commercial removal of dioxins from 2,4,5-T. The procedure has potential for removal of a wide range of environmental contaminants.

Benefits:

1. Improved analytical methodology will be of benefit to other Federal agencies such as FDA and EPA. These agencies use these methods in setting water quality standards and in the registration of chemicals as related to hazards to fish and wildlife.

2. Through the use of status reports, journal technical publications, and participation in technical forums, data are provided to resource managers, regulatory agencies and other agencies. This information is used to provide guidelines for safe use of pesticides with minimal hazards to fish and wildlife and their habitats.

B. Land and Water Resource Development Planning

Fiscal Year 1977, $9,541,000: Fiscal Year 1978, $10,070,000
Increase of $529,000

Major Program Changes

(1) Permits and Licenses +200,000; Total $5,001,000
Total positions; 154

Proposal

This proposal provides a means for the Service to work effectively with the Corps of Engineers in the development and implementation of the new general permit program for minor projects in navigable waters (Section 10, Rivers and Harbors Act of 1899; Section 404, Federal Pollution Control Act of 1972). The design of the general permit program is to provide a means whereby permit review agencies can evaluate in the aggregate, during a brief review period, the probable impacts of numerous potential projects such as small-boat docks or short bulkheads on a given segment of waterway.

Justification: Permit work includes Section 10 navigation permits and Section 404 permits. If projects requiring these permits are undertaken without due regard for fish and wildlife resources, unnecessary environmental destruction and degradation can result. The Service is committed to a policy of insisting that federally-permitted water resource projects be designed and constructed to avoid damages to fish and wildlife resources or to reduce damages to the minimum level feasible. This requires careful screening of permit applications, field investigations to document fish and wildlife resources within proposed project areas, and the development of reports with specific measures recommended to lessen or eliminate damage to these resources.

The Service, as well as the Corps of Engineers and EPA, has long recognized that subtle, but severe, environmental degradation can result from a proliferation of small projects, especially when they are concentrated within a relatively small portion of a waterway. Such minor projects by themselves cause only slight damage or alteration of fish and wildlife resources. The cumulative adverse effects of numerous such small projects, however, may be severe. For instance, piecemeal minor bulkheading and backfilling along the shoreline of a productive estuary or lake can, in a relatively short time, result in the obliteration of many acres of shallow-water fish and wildlife habitat and many linear miles of natural shoreline.

The general permit program is to be the most practicable solution yet advanced as a means for strongly encouraging applicants for this type of project to incorporate into their plans all practicable means to avoid or minimize impairment of water quality and degradation of fish and wildlife habitat values. It accomplishes this by the issuance of a permit which is applicable to all future described works of the category for which the permit is issued in the specified water body. The permit will specify strict design criteria and construction technology which, if fully agreed to and implemented by project sponsors, will exempt them from the current requirement to file individual permit applications with the Corps. The Corps will depend heavily upon the Service to provide technical guidance in the design of project features and safeguards to conserve fish and wildlife resources. This process will allow large groups of permits to be handled simultaneously by Service personnel, thereby reducing the time required for review of small individual projects and enabling the Service to place greater emphasis on the review of larger projects which have potential for greater impacts.

Funding has not been adequate to permit substantive review of each Corps permit application involving potentially destructive but avoidable impacts on fish and wildlife resources. The Service has traditionally coped with this problem by focusing virtually all of its intensive efforts on a relatively small proportion of obviously major permit applications. Consequently, each year smaller projects which individually appear to be of lesser impact are reviewed cursorily or not at all.

An increase of $200,000 will provide for developing standard and specialized techniques for evaluting general permit impacts, developing the Service's analyses and recommendations to the Corps of Engineers, and maintaining policy and program consistency throughout the region. The major responsibility for field reconnaissance and data gathering will remain with the area offices. For these offices to perform effectively in the general permit review program at this level of funding and staffing, it will be necessary to forego the review of some major individual permit applications during peak periods of general permit review activity. This temporary expedience should be partially offset by implementation of general permit conditions which will be broadly applicable to projects on many miles of streams and in or near many wetlands of high fish and wildlife habitat value. The Service should be able to decrease the number of proposed activities in navigable waters which would otherwise completely escape our review or be reviewed in a cursory and inadequate fashion.

Cost Factors:

Part time Employees; $175,000; Travel, $25,000

(2) Project Investigations - technical assistance +$329,000: Total $2,444,000
Total position 63

Proposal

This effort is designed to produce a single uniform system for measuring the full impact of federal or federally-assisted or permitted water and related land resource development projects on fish and wildlife resources and their habitat throughout the Nation.

Justification

During this last year the Fish and Wildlife Service investigated and reported on the fish and wildlife impacts arising out of water development proposals that ranged from requests for individual small boat docks in navigable waters to multi-county flood control or irrigation projects involving such activities as reservoir construction, stream channelization and extensive land use changes.

Prior to 1974 the methods employed in responding to these requests consisted of a narrative statement of impacts and an economic evaluation that equated total environmental values of an area with man-days of fishing and hunting.

With the passage of the National Environmental Policy Act (NEPA) and the adoption of the Water Resources Council Principles and Standards for Water and Related Land Resources (P&S) the Service was required to expand its procedures to include "environmental amenities" and "non-monetary expressions of value". From a fish and wildlife standpoint, these environmental components include such measures of habitat quality and quantity as diversity, scarcity, criticality and carrying capacity as well as other factors including esthetics. In addition, the P&S require a study of at least three alternatives per project employing both monetary and non-monetary evaluations. This requirement produced an increase in the number of fish and wildlife evaluations required per project. Further, because of the nationwide character of the environmental movement together with the requirements of NEPA and the P&S, it was incumbent on the Service to standardize its procedures and apply them nationwide.

To properly respond to these new directives the following is required: (1) An expanded and standardized evaluation procedure. Without this basic tool the Service will never achieve public approval or the support of the sponsoring agencies with whom they consult; and (2) The use of new technology in order to handle the expanded workload.

Although only the tip of the iceberg has been addressed to date some progress in achieving these goals has occurred. For example, a standard evaluation procedures manual that includes some non-monetary parameters as well as the standard economic expressions has been distributed to the field for use on major projects.

However, much remains to be done to achieve the goal of a single uniform system that is useful on a wide range of projects and enjoys a full range of support. Additional environmental components must be added to the procedures in a studied fashion if they are to fully respond to NEPA and the P&S. To date the procedures are being used on only the larger projects. They must be modified for use on a wider range of projects if there is to be equal treatment among project types. Additional calculators and peripheral equipment are required to store biological data and thereby further reduce workloads by achieving automatic retrieval of information without significantly increasing manpower. Mapping of project areas using new remote sensing techniques appear cost effective and warrant further study and the goal having eventual development of an operational program for use on water and related land development projects. Criteria which will reduce the subjectivity of the non-monetary evaluations must be developed for the habitat types across the nation. These and many other tasks must be critically addressed if the goal outlined in the proposal section of this document is to be achieved and the Service is to properly respond to the dictates of the NEPA and the P&S.

Cost Factors

Part-time Employees: $179,000, Travel and Training: $90,000, Equipment and Supplies: $60,000.

Program Description - Land and Water Resource Development Planning

The Service examines the impact of proposed land and water resource development projects on fish and wildlife habitat and assists in the planning of these projects. This assistance is provided to define problems and to support recommendations for necessary preventative or remedial measures. The Service also cooperates with other Bureaus and offices in preparing regional reports on broad-scale utilization and management of natural resources, including fish and wildlife. Such participation must of necessity occur at all levels and in a continuing manner.

Assessment of land and water resource development project impacts on fish and wildlife and their habitats is determined through project investigation; onsight surveillance resulting in Service findings and recommendations in accord with the Fish and Wildlife Coordination Act; environmental statement preparation and review; close coordination with all concerned agencies, Federal, State, or other; research; and participation in public meetings.

Benefits to be derived from this program include a reduction of habitat losses from federal-financed or licensed projects; recognition of fish and wildlife production as beneficial uses of land and water resources; identification of compatible alternates to environmentally damaging activities; and increased recognition of fish and wildlife values in land and water use.

Major Workload Factors	1976	1977 Estimate	1978 Estimate
Permit and License Applications Received	65,500	79,000	100,000
Land and Water Resource Development Investigations	800	850	900
Environmental Statements and Assessments Reviewed	2,200	2,300	2,400
Comprehensive River Basin Studies	8	11	16
Wilderness Areas, Wild and Scenic Rivers Studies, National Trails	34	23	28

(1) Permits and Licenses + $200,000; Total $5,001,000
Total positions 154

The Service analyzes and reports on the effects of projects and actions requiring a Federal license, lease, or permit on fish and wildlife resources and habitat. This includes studies of treatment plants proposed for construction under the NPDES-SEC. 402 program. Physical development projects requiring a permit, license, or lease to use Federal Lands (BLM, National Forest, and other non-Service public lands) must be reviewed to determine potential resource and habitat losses. The activities included in this category are: BLM rights-of-way permits; Forest Service special use permits; applications for permits to prospect for and/or develop resources on public lands; etc. Transmission corridors which are not an integral part of an overall assessment of a more comprehensive project i.e., oil, gas, water, coal slurry pieplines; power transmission lines, etc. are reviewed for potential impact on fish and wildlife. This program also includes input to and review of non-Service Environmental Impact Statements.

Agencies involved are: Corps of Engineers, Environmental Protection Agency, Bureau of Land Management, U.S. Forest Service, Nuclear Regulatory Commission, Federal Power Commission, Department of Transportation, and others.

(2) Project Investigations-Technical Assistance (Ecological Planning and Evaluation Procedures) + $329,000; Total $2,444,000
Total positions: 63

This sub-activity involves all work associated with the analysis and reporting on the effects of water and related land resource development projects on fish and wildlife resources and habitat. This work includes investigations, reports, technical information, advice and follow-up studies or consultant services provided to agencies and organizations engaged in these projects, from inception of project planning through project completion. Included are studies for the analysis of project effects, the effectiveness of recommendations implemented or failure to implement recommendations, and the need for project modification in the interest of fish and wildlife resources. The agencies involved include, but are not limited to, Corps of Engineers, Bureau of Reclamation, Soil Conservation Service, and Irrigation and Flood Control Districts. This also includes input to and review of non-Service Environmental Impact Statements covering these works.

(3) Area Wide Planning Total: $2,625,000
Total positions: 84

The Service participates with other agencies in area-wide, multiple-purpose land and water use planning, including joint surveys. Input to and review of non-Service Environmental Impact Statements is pertinent to these activities. The emphasis is on large geographical areas and/or wide-scope resource problems, rather than on individual projects.

The Service participates in Level A and Level B comprehensive planning studies as outlined in the National Water Resource Council's Principles and Standards (e.g., Upper Colorado River Basin Framework Study, Pacific Northwest Coordinated Comprehensive Joint Plan, Platte River Level B Study, and 1975 National Water Assessment).

Studies and planning are also conducted for special habitat types and geographical areas, including aquatic environments important to fish and wildlife resources including the Federal Aid programs of Department of Housing and Urban Development, Bureau of Outdoor Recreation, Environmental Protection Agency, Economic Development Administration, and others (e.g., review of water quality standards, SCS Type IV and RC&D projects, estuarine studies, local and State land use planning, Coastal Zone Management Studies and port and shoreline management studies).

Candidate areas are studied to determine their potential for inclusion in, or designation as, Wilderness Areas, Wild and Scenic Rivers, Natural Areas, National Trails, or other unique areas.

C. Biological Services

Fiscal year 1977, $9,046,000; FY 1978, $12,446,000; increase of $3,400,000

Major Program Changes

(1) Coal +$700,000; Total $3,320,000
Total positions: 31

Proposal. The increase will be used for contract studies to: (1) accelerate collection of coal-related baseline fish, wildlife, and habitat data, and analyses on coal-related western Ecological Test Areas, particularly water-related ecological information, (2) expand activity to collect ecological information relevant to coal development on eastern Ecological Test Areas.

Justification. A key element of the Service's coal activity has been applied research. Current decisions to accelerate coal leasing and the program of regional Environmental Impact Statement (EIS) development represent first steps in a long chain of decisions relating to lease stipulations, operating plans, water development, processing plants, etc. Each of these steps will require consideration of ecological impacts. Information on many of these impacts is lacking, and the research program is needed to provide a firm understanding to guide management decisions. The ecological information currently being developed is expected to help guide biological aspects of coal development for may years to come. Much of this effort has been focused on Ecological Test Areas. Five such areas were identified in the Western United States (southwest North Dakota, southeast Montana, northeast Wyoming, south central Utah, northwest Colorado, northwest New Mexico). Two additional Test Areas will be located in the eastern United States in FY'77.

In FY'78, the proposed increase will support accelerated efforts on the North Dakota and New Mexico areas, and increase the level of effort on the Montana-Wyoming and Colorado areas. Work will be accelerated on the Appalachian areas, with priority assigned to information needed to support coal development activities in North Central Alabama, including a possible Regional EIS, and related coal needs on Southern Appalachia, - a major surface mining region representing four significant forest ecoregions. Specific study needs have been determined, and studies will be initiated as soon as funds become available. Examples of new contract studies to be funded in FY'78 are: understanding terrestrial and aquatic wildlife and fisheries interrelationships in impacted habitat; determining functional values of habitat for important species, gathering information on distribution and requirements of endangered species in relation to coal development; and developing habitat-ecosystems maps.

Cost Factors. The requested increase of $700,000 will utilize $80,000 for increased personnel cost and temporary positions; $585,000 for contracted projects and studies; $20,000 for travel; and $15,000 for equipment and supplies.

(2) Power Plants +$200,000; Total $1,201,000
Total positions: 17

Proposal. The proposed increase will strengthen the capability of Service regions facing critical power plant issues. The increase will be used to assure that all relevant information is synthesized and made available for use in power plant siting, construction and operations.

Justification. The Service under responsibility and authority of the Fish and Wildlife Coordination Act and National Environmental Protection Act (NEPA) can be involved with the review of 40 major power plant projects at any one time, each of which require several separate actions over several years. Such actions entail at minimum the review and preparations of individual reports providing com-

ments or stating the Service's position on site suitability, environmental study plans, study findings, plant design, construction permits and operating licenses. Also, operational monitoring reports are received and reviewed for about 60 plants every 6 months. In addition, a large number of requests for technical assistance and information is being received from other Federal and State agencies.

The effectiveness of these reviews and inputs is dependent upon the ability of field personnel in regions to obtain and use in a timely manner the best possible information about ecological resources and the potential impact of proposed power plants. As an example of the work load involved in FY'77, it is anticipated that 21 man-months of effort will be directed toward the Hudson River Power Plant issue alone.

A large amount of information relevant to these needs exists, but it is often fragmented, scattered, and not available for timely use. Further, with the increasing number of power plants, the attendant field studies by industry and government are generating vast quantities of new data and information that must be reviewed, synthesized and used effectively in order to reduce environmental impact.

The additional resources requested will provide an operational, quick turnaround capability (in regions facing major power plant developments) relating to data retrieval, synthesis, impact analysis and information transfer. The resources will provide an improved contractual capability to assemble existing information and to manage data and information stemming from new studies.

Cost Factors. This request is for a total increase of $200,000 of which $185,000 is for contracts and $15,000 for equipment and supplies.

(3) Systems and Inventory +$1,750,000; Total $3,463,000
Total positions: 43

Proposal. The proposed increase includes two projects within this subprogram. The National Wetland Inventory (NWI), and the Biological Indicators/Habitat Classification and Analysis Project, which are developing uniform, systematic techniques and programs for classifying, inventorying and assessing fish and wildlife habitat.

The National Wetland Inventory project began the operational classification and mapping of wetlands in FY'77. The FY'78 increase of $1,000,000 is requested to perform the following tasks: (1) collect and prepare material essential for the conduct of the Inventory including preparation of modified topographic base maps for the display, compilation and analysis of wetland information; (2) acquire new aerial photography in those areas of Alaska, Hawaii, and interior U.S. where adequate photography is not available, and inventory existing aerial photography in other areas; (3) complete the inventory of wetlands in the coastal zone of the conterminous U.S., Mississippi River flood plain and prairie pothole region; (4) initiate the inventory of wetlands in Alaska, Hawaii, and interior portions of the conterminous U.S.; (5) digitize inventory data so that wetland information can be used, manipulated and displayed in tabular or computer map for at a variety of scales; (6) produce summary inventories of wetland resources by regions.

The Biological Indicators/Habitat Classification and Analysis project builds on the concepts developed under the National Wetland Inventory. It will develop uniform, systematic techniques and programs for classifying, inventorying and assessing fish and wildlife habitat in regions facing major environmental impact issues, and provide this information in formats appropriate for use in environmental impact assessments and resource planning throughout the Federal establishment as well as by the Service. An increase of $750,000 is requested for FY'78

to perform the following tasks: (1) develop and publish a habitat classification system applicable to all major ecosystems and classes of users; (2) define inventory procedures to implement the habitat classification system; (3) begin development of a geo-based habitat information system. This system will allow storage and retrieval of geographically referenced data relevant to fish and wildlife habitat assessment. The system will store and composite both mapped and non-mapped geographically referenced data; (4) assist other agencies requiring wildlife data, for example - the U.S. Forest Service has requested assistance in developing the procedures and strategies for assessing wildlife habitat under the mandate of the Forest and Rangeland Renewable Resource Planning Act of 1975, (5) prepare regional Key Habitat Criteria Handbooks to support the Land and Water Resource Development Program's Ecological Planning and Evaluation Procedures (EP)[2]. These procedures were developed in response to the Water Resource Council's Principles and Standards; (6) continue work on wildlife indicators of habitat type.

Justification. A comprehensive and coordinated thrust focused on providing universally applicable information on fish and wildlife habitat, based on standard classification, inventory and assessment method is urgently needed to facilitate environmental impact and resource management decisions. Current approaches require a new start to acquire and analyze needed fish and wildlife information for each impact assessment and each planning effort. This has been recognized by the Service and other resource management agencies as a highly ineffective way to utilize funds and manpower, as well as a significant contributing factor to the overall delays and costs overruns common to projects requiring environmental analysis, assessment and/or planning. This presents a particularly serious problem in Environmental Impact Statement preparation.

Various agencies have been proceeding with the development of a multitude of data bases, classification systems and evaluation procedures which include or take into account wildlife data. These systems are usually designed for use within a specific project or program only. Both the National Wetland Inventory and the Biological Indicators/Habitat Classification and Analysis Project address the need for the comprehensive approach.

Through the National Wetland Inventory, the first comprehensive classification systems and data base is being produced for wetland habitat, because of the key ecological importance of wetlands and of their relationship to the Service operations (e.g. wetlands acquisition). Basic data are needed to analyze alternative uses of the wetlands, their costs, and the best use in view of multiple national objectives. The National Wetland Inventory represents a basic data bank which will collect, interpret, store, and reproduce wetlands data in both map and computer form, so that a wide range of Federal, State, local, and other public groups can retrieve and apply these data to their own programs. At the Federal level alone, there are at least ten groups within Interior and nine other Federal agencies (including Corps of Engineers, Environmental Protection Agency, Office of Coastal Zone Management, National Marine Fisheries Service, and Federal Highway Administration) which have specifically indicated the need for these data in their management and research activities. Some eleven regional groups (such as Tennessee Valley Authority and the Great Lakes Basin Commission) have programs that require wetlands data. Information support has been given to the NWI by other Federal agencies, States, and university groups during the course of contacts with experts and representatives of the user community.

The existing wetlands inventory U.S. Fish and Wildlife Service Curcular 39 was completed 20 years ago and is obsolete in two regards. It is out of date as an inventory due to the large number of wetlands alteration since then, and it is incomplete as a classification system. There is much more information available now on the functions of wetlands in the biological and physical environment and better methodology exists for classifying and inventorying wetlands. Therefore, a more accurate inventory and an updated classification system are necessary to meet the expanding range of user needs.

A few major applications of National Wetland Inventory products are: (1) Legislation requires the U.S. Department of the Interior, Corps of Engineers and Environmental Protection Agency to review permits to certain activities involving wetlands. The Service is currently required to process approximately 40,000 permit applications per year. Inventory products will locate wetlands, help establish the boundaries of controlled areas and allow an area, regional or flyway analysis. This will help reduce costly field examination and time-consuming permit-by-permit procedures. (2) Each year $10 to $20 million is authorized for the Migratory Bird Wetlands Acquisition Program. The NWI products will allow identification of critical wetlands in various flyway systems in order to rank wetlands by priority for the national acquisition program. (3) The Water Resources Council (WRC) requires an environmental quality plan for each Federal water project. The NWI products will support a significant component of this plan under WRC's published Principles and Standards. (4) Oil spills from offshore drilling are a hazard to wetlands. Ecological functions can be wholly or partially destroyed by oil swept by wind and waves onto shoreline areas. Alternative development sites may be selected and/or appropriate operations stipulated to minimize these problems if locations of unique or particularly valuable coastal wetlands are established.

Fiscal Year 1978 is the second year of a 3-year period during which the wetland inventory is scheduled to be accomplished. Due to the high priority given this project by the Fish and Wildlife Service and specific directions given by the Appropriations Committee, the operational inventory was begun during FY'77.

The second activity for which the increase is requested, Biological Indicator/Habitat Classification and Analysis Project, will develop systems to identify and evaluate types of fish and wildlife habitat other than wetlands. The project will not presently conduct a full-scale inventory analogous to the National Wetland Inventory. Instead, it is to develop systems and procedures which will make maximum use of data available or being collected by various sources, State and Federal, to begin to build a compatible and accessible data base. This will include data base support to Biological Services projects (e.g. coal, coastal ecosystems/OCS, etc.) and to the Land and Water Resource Development Program. Major contracted studies will support the continued development of a systematic approach to biological indicators of environmental quality as a component of the overall habitat analysis function.

Some of the major uses of this information are: (1) Development of domestic energy sources such as coal, geothermal resources and oil has been assigned a high national priority. The time required for environmental impact assessments can be reduced and many adverse environmental impacts can be avoided, if a compatible data base and a uniform and systematic approach to identifying those ecological components most sensitive to development are available. (2) The U.S. Forest Service in implementing the Forest and Rangeland Renewable Resource Planning Act of 1974, requires an analysis of fish and wildlife habitat to fully evaluate these resources. (3) Classification and identification of key critical habitat for endangered or threatened species will be incorporated into the proposed system. This information can then be incorporated into a total habitat assessment for a development project. (4) In many instances, degradation of the environment progresses to the extreme before the problem is noticed. Identification of key biological indicators of loss in environmental quality will allow quick response to potential environmental problems. (5) Key Habitat Criteria Handbooks are needed to support effective implementation of the Ecological Planning and Evaluation Procedures $(EP)^2$.

In summary, significant funds are being spent each year on a variety of programs which need information to be produced by the National Wetland Inventory and the Biological Indicators/Habitat Classification and Analysis Projects. They are cost-effective programs which do not duplicate any other existing program, make optimum use of existing relevant information, and have been designed to be of optimum use to a large audience of user communities (Federal, State, local governments, private organizations, and individuals).

Cost Factors. This request is for a total increase of $1,750,000 of which $1,529,000 is for contracted projects, studies and part-time personnel, $51,000 for travel, and $170,000 for equipment and supplies.

(4) Coastal Ecosystems/OCS Development +$750,000; Total $2,250,000
Total positions: 48

Proposal. The proposed increase in FY'78 will be used to: (1) strengthen Service capabilities to interact with Bureau of Land Management and U.S. Geological Survey in a manner that will allow the Service to fulfill more adequately responsibilities under Secretarial Order 2974 and related activities; (2) strengthen our capability to make use of existing information sources relating to coastal ecosystems; and (3) develop new information sources relating to effective impact assessments on important coastal regions subject to development.

Justification. Accelerated development of Outer Continental Shelf (OCS) oil and gas resources is a major segment of the Nation's energy program. The Fish and Wildlife Service has important responsibilities relating to protection of resources such as migratory birds, endangered species, anadromous fish and wetlands and estuaries that could be impacted. Recognizing the importance of Service participation in the Department's program for accelerated OCS development, Secretarial Order 2974 was issued on April 30, 1975. Its purpose is to improve the planning and operating functions of the OCS minerals program by strengthened procedures for Service input to the Bureau of Land Management and U.S. Geological Survey with respect to environmental research, monitoring and operational activities.

Subsequently, Memoranda of Understanding have been completed, setting forth procedures for implementing these provisions. Such advice is critically important in assuring that the accelerated leasing program can move forward without undue delays, but in a manner that will minimize the impact of OCS development on the environment.

In FY'78, accelerated development of the OCS will be gaining impetus and should involve oil and gas lease sales in frontier areas off the Atlantic and Pacific coasts, as well as off the coast of Alaska. Each of the 6 lease sales held in FY'78 will involve one million or more acres. In addition to the lease sales actually held in FY'78, the Service will also be involved in participating in the initial stages of 6-8 future sales, as well as involvement in the postsale phases (monitoring, permit review) of sales held in previous years. This will result in a major workload increase in Service coastal regions. Except for activities in the Gulf of Mexico and to a small extent off of southern California, the Service is not yet involved in postsale phases of sales. By FY'78, the Service will be involved in postsale activities off the Atlantic coast, off Alaska, and further involved off southern California. In addition, the initial stages of activity for future sales include involve frontier areas where less is known than in the Gulf of Mexico and therefore more work will be required to obtain necessary information. These two types of activities will cause a major increase in Service activities.

The proposed funding would also result in a greater capability to make use of existing information sources relating to coastal ecosystems. The effort would utilize information on living resources and related impacts of development activities such as dredging, environmental contamination and structures. A great deal of work on these problems has been done or is underway, but the sources of this information are scattered and frequently not available for use in short-term decisionmaking at field level. The proposed effort is to strengthen the Regions which are facing critical coastal issues, by providing capability to assemble and utilize all available sources of data and information in a systematic manner. This will increase the efficiency and effectiveness of programs in

coastal areas, by making the best scientific data and information readily available. It will reduce requirements for labor intensive field investigations in many cases.

In order to respond effectively to increasing needs for coastal resource information, the Service must also improve methodology and the data base for impact assessment. Critical fish and wildlife resources and their habitats must be identified and evaluated in terms of long range impacts of future development. Means of mitigating and compensating ecological damage must be developed and made a part of the decision process. The effects of various coastal developments must be determined in order to prevent widespread permanent damage to the coastal environment and living resources in particular. The proposed increase will provide additional support for contract studies of these issues to support participation in OCS and other coastal developments. Examples are: (1) methods of mitigating impacts of oil spills on coastal marine birds; (2) identifying the value of important coastal ecosystems to coastal fish and wildlife resources; and (3) provision of information on distribution of endangered species in areas subject to coastal energy impacts.

Cost Factors. The requested increase of $750,000 will utilize $240,000 for part-time and temporary personnel, $40,000 for travel; $20,000 for equipment and supplies; and $450,000 for studies and contracts.

Program Description - Biological Services

The Biological Services program supports research, baseline studies, and planning directed towards selected environmental issues, such as those related to energy developments, which are of critical importance to the Department and Service. The program is providing information on fish and wildlife habitats and the potential impact of development in such important areas as the Northern Great Plains, the Alaskan Coast, the Four Corners, and others. In addition to developing an important information base on wildlife and its habitat, the Service is utilizing this information through strengthened participation in such Department of Interior programs as Outer Continental Shelf development, coal development, and geothermal leasing. The program also functions in close concert with the Land and Water Resource Development Planning activity to provide information which is needed in that program's environmental assessment activities. For example, the National Wetlands Inventory will provide information which will support the Permits and Licenses activities conducted under the latter program.

(1) Coal	+ $700,000;	Total $3,320,000 Total positions: 31

In response to national energy needs, rapid acceleration of coal development is underway, of which the Department of Interior accelerated leasing program is a major part. Most of the Federal actions, involving both preference right and competitive leases, will occur in the West. A significant number of actions will require regional and, in some instances, site-specific environmental impact statements. Coal activity in the Eastern United States is also accelerating. Although the number of mines in the Appalachian region have been diminishing, the intensity of coal mining is still high, and forecasts indicate it will significantly increase, particularly surface mines.

Accelerated coal development will trigger a major sequence of events including leasing, development of mining plans and environmental stipulations, reclamation measures, development of processing and conversion plants, and transportation facilities. These activities can have profound and long-term impacts on the fish and wildlife resources of coal regions (e.g., Northern Great Plains). The coal activity is designed to provide ecological input at critical points throughout the entire development process to minimize these impacts.

Service coal objectives are to: (1) ecologically characterize the status of fish, wildlife and associated habitat in regions and ecosystems currently/potentially under stress from coal development, (2) develop improved capability to assess, predict, and minimize coal related impacts to fish, wildlife, and their habitat and, (3) appropriately involve the Service in coal development actions to assure that the improved information is brought to bear on decisionmaking.

Five western and two eastern Ecological Test Areas were selected after extensive inter-agency consultation to give Service efforts (in-house and contract) an appropriate focus toward areas with high coal development potential. They are representative of broad, biogeographic-ecological associations in areas under stress from coal development, and large enough (5,000 to 10,000 square miles) to contain the ecological variability inherent within the ecosystems concerned. Phased programs of study are planned for each Test Area, designed to provide a sound timely factual basis for dealing with the ecological aspects of coal extraction and processing.

Through FY'77, significant applied research efforts will be underway on two of the Western Test Areas: Montana-Wyoming, and Colorado, with lesser amounts of activity on the remaining three. Over 50 major contracts and in-house activities have been initiated. Broadly, these include analyses of information requirements, collection of existing and new baseline information, development of improved methodologies for assessing fish and wildlife populations and habitat, development of methods for determining socio-economic values of fish and wildlife, development of computerized data bases and software, assessment of coal extraction, conversion, processing, and transportation impacts, mine reclamation studies, mitigation/enhancement studies, and development of general purpose predictive models, concepts, and approaches.

Accomplishments through FY'77 will include:

1. Coal activity personnel have participated on Department of Interior task forces for the purpose of defining: commercial quantities, regulations for diligent development, development of coal leasing and operating regulations, development of criteria for identifying lands unsuitable for mining, and comparison of Federal and State reclamation regulations. Service personnel have been deeply involved in Secretarial decisions related to these issues. This has been effective in helping assure an environmentally balanced approach to resource development.

2. Completion, in cooperation with State fish and wildlife agencies, of initial prioritization of fish and wildlife habitat values in western coal areas, ranging from those requiring maximum protection to those of minimal importance.

3. Development of operational staff capability in Service regions undergoing coal development to participate in all phases of the development process. This will assure the most accurate and reliable ecological information pretaining is made available for use. These operational elements are designed to provide a positive Service interface with Bureau of Land Management, U.S. Geological Survey, and the affected State and private interests involved in all aspects of the development process.

4. Initiation of a wide range of studies and surveys designed to provide additional information for resolution of coal development problems including Regional EIS's. Examples are: methods to identify economic and social values of wildlife in coal development areas, approaches to predicting and success of strip mining reclamation in protection wildlife habitat, techniques for identifying unique habitat and ecological units, and rapid assessment technologies for assessing wildlife habitat in arid and semi-arid coal regions.

Benefits of coal project activity are threefold:

1. It will minimize delays in coal development through the timely preparation and consideration of reliable ecological information--a major shortcoming in the past.

2. It will minimize needs for collection of expensive and unnecessary baseline data, through the development of more sound specifications for biological monitoring programs.

3. It will minimize destruction of fish and wildlife habitat. Coal development in many areas, both in the East and West, can have significant and even catastrophic impacts on fish and wildlife. In some of these areas, fish and wildlife are the highest values the land supports. With proper consideration before and during development, the negative impact on fish and wildlife can be minimized, indeed in some instances it may be reversed to a positive impact; in some instances it will be possible to mitigate damages. Without the intensive consideration provided by the coal project, these values may be foregone.

(2) Power Plant + $200,000; Total $1,201,000
Total positions: 17

Subprogram consists of applied research, analysis and technology transfer on ecological aspects of electric power generation and transmission. Objectives are to develop an improved capability to assess impacts on the fish and wildlife resources, to prevent or mitigate ecological damage, and to make this information available for use to other governmental agencies. Findings are utilized in the operations of the Land and Water Resource Development Planning Program in implementing the Fish and Wildlife Coordination Act and National Environmental Protection Act, and by other agencies concerned with power plant development (e.g., Environmental Protection Agency, Nuclear Regulatory Commission, etc.).

Location, design and operating characteristics of electric power plant generation and transmission facilities are of concern because of potential damage to both aquatic and terrestrial ecosystems. Fish and other aquatic organisms entrained in water withdrawn and passed through power plant cooling systems are usually damaged or destroyed, as are those that come in contact with the hot water and toxic chemical discharges. Wildlife habitat can be eliminated or drastically changed as a result of the construction and operation of electric generating plants, transmission lines, and other facilities on land.

Emphasis of the power plant activity has been on: (1) applied research of a non-site specific nature to develop needed information and understandings which would have broad utility, (2) strengthening the technical capability of the Regions to deal with specific power plant problems, and (3) providing expert technical assistance to other agencies. Accomplishments through FY'77 include:

1. Completing and widely disseminating a number of studies addressing critical information needs such as: impact on icthyoplankton and fish populations to siting and control technology needs, a generalized computer model for siting utility corridors to minimize environmental impact, the toxicity of chlorine used in power plant operations to juvenile fish as an alternative means of disinfection.

2. Initiating a series of additional studies on key problems such as: assessment of techniques for predicting entrainment and impingement at power plant cooling intakes, a manual for management of transmission line rights-of-way for fish and wildlife to establish fish and wildlife

management programs, models to determine the effect of power induced mortality to fish egg and larvae on adult fish stocks.

3. Completing manuals intended primarily to strengthen review capability under the Fish and Wildlife Coordination Act such as: a stream electric power plant review manual to provide guidelines for assessment of project impacts, and a manual on existing mathematical models, addressing utility, interpretation and use by Service personnel, as well as by others.

4. Providing technical assistance to Federal agencies at their request including preparation of testimony and presenting expert witness for Environmental Protection Act at the Brunswick Power Plant and several Hudson River PCB hearings, expert technical assistance and guidance to the National Park Service, on the impact of Bailey Power Plant on Indiana Dunes National Monument, and extensive participation in Federal Power Commission hearings on the Storm King pumped storage project.

5. Chairing Service/Environmental Protection Agency/Nuclear Regulatory Commission work group to draft technical specifications for biological studies required under Section 316(a) of Federal Water Pollution Control Act.

Benefits of the power plant activity are improved siting and management of plants and transmission corridors to minimize impact on fish and wildlife resources. Cost savings in utility baseline studies are anticipated, as well as more meaningful data. In some cases, savings in required control technology (e.g., cooling ponds) may be demonstrated as feasible, through improved impact assessment methodology.

(3) Systems and Inventory + $1,750,000 Total $3,463,000
Total positions: 43

This subprogram functions in support of Biological Services, Habitat Preservation, and other Service activities, and also provides valuable services to other agencies. It consists of projects designed to: (1) develop standard, universally applicable fish and wildlife habitat classification, analysis (including the systematic use of biological indicators) and inventory methods needed by many agencies involved in natural resource planning, management and impact assessment; (2) conduct a nationwide inventory of wetlands, a habitat type requiring priority attention; and (3) develop, implement and manage an Information Transfer System which will effectively and efficiently provide Service and other agency decision-makers with the information they need to meet their fish and wildlife related resource management responsibilities.

Accomplishments through FY'77 include:

1. The National Wetland Inventory is in the process of classifying, mapping, and making analyses of wetlands throughout the United States. It is thereby developing a universally applicable, common base of accurate wetland information for use of all government and private entities with responsibilities and interests in wetland conservation and management. Wetlands are described on an individual and/or cumulative basis in terms of their ecological and physical characteristics, geographic location and natural resource values. All information is being digitized and stored in a computer data bank, so that it can be easily updated, analyzed and reproduced. Published products to date are: National Wetland Classification System, Physiographic Provinces and Landform for the U.S., Atlas of Existing and On-going Regional and State Wetland Inventories and Atlas of all recent High Altitude Aerial Photography.

83-561 O - 77 - 22

2. Initiation of a comprehensive Habitat Classification and Analysis effort was designed to maximize compatibility of wildlife data collection and analyses in Federal and State agencies. This is an expansion of the concept and technology used in the National Wetland Inventory applied to other types of habitat. It provides an all-habitat inclusive system designed to manage information concerning habitat classification, ecological characterization, biological indicators, geographic location and evaluation; and produce this information as needed for impact assessment and resource management decisions.

3. The National Teams were provided equipment (i.e., computer terminals), information science specialists, and procedures which will enable them to provide technical information support services through a network approach, utilizing information systems that already exist in the Federal establishment, universities, and elsewhere.

4. Development of a pilot activities alerting information system was designed to provide significant support to Ecological Services field biologists in their environmental impact assessment and mitigation mission. This system will provide early warning signals of developments that may impact undesirably on fish and wildlife values, so that Service can get involved early in the process.

5. The Information Transfer activity supported effective formatting and dissemination of data products (e.g., manuals, reports, atlases, maps) produced by various Biological Services investigations.

Benefits are:

(1) a common data basis for the support of habitat preservation and related conservation and management activities of all Federal and State resource agencies, in a timely and useful format,

(2) this cuts down waste of Federal resources due to both unilaterally redundant programs of different agencies and the traditional habit of starting anew with data collection and analysis, for each new problem encountered, and

(3) a defensible, scientifically sound, data base for habitat assessment in time to avoid detrimental actions and in time to consider reasonable alternatives.

(4) Coastal Ecosystems/OCS Development + $750,000; Total $2,250,000
Total positions: 48

This subprogram involves applied research, technology transfer, and operations support on environmental problems affecting the Nation's coastal systems, including the effects of OCS development. The objective is to increase Service capability to respond to information needs relative to coastal ecosystems by providing biological information for use in decisionmaking processes including permit reviews under the Fish and Wildlife Coordination Act. In addition, the objective is to provide for Service participation in all phases of OCS development as mandated by Secretarial Order 2974.

Examples of accomplishments through FY'77 are:

1. Better understandings of the distribution of critical coastal resource have been developed. For example, a catalog of waterbird nesting

colonies and their critical habitats will be completed for the Great Lakes, Atlantic and Gulf coasts.

2. The effects of development activities and contaminants on fish and wildlife habitats have been investigated. For example, an analysis of the impacts of oil and gas development on Gulf coast refuges will provide insights on how to better plan and manage similar development on other public and privately owned lands.

3. Improved impact assessment methodologies have been developed which will make more effective use of ecological information in the process of development planning. For example, a handbook has been prepared for assessment of offshore oil and gas related activities and a similar handbook is in preparation in cooperation with other Federal agencies for guiding and planning the future development of coastal floodplains. State-of-the-art information has been developed for use in impact assessment on the biological effects of coastal structures and on the factors that affect the distribution of submerged aquatic plant communities.

4. Beginning with the 1975 southern California lease sale, Service has participated in each OCS lease sale in compliance with Secretarial Order 2974. A major thrust of the project has been to supply better information on the fish and wildlife aspects of the various sale components so better informed decisions may be made. Input to the lease sale process included resource assessments, involvement in tract selections, development of special stipulations, and formulation of environmental options for the Secretary's consideration, especially for frontier areas.

5. Technical advice has also been given in the design and implementation of environmental research and monitoring programs, and plans for exploratory drilling and development of the OCS.

Benefits of this activity relate to meeting information needs on development of coastal areas and include: characterizations of the country's coastlines which may be incorporated into the early planning phases of development; preparation of guidelines and handbooks which offer guidance related to the more effective use of environmental information in coastal areas; and the identification of those coastal areas where significant data deficiencies exist with regard to the full understanding of regional ecosystems. Through Service participation in the OCS leasing process, decisionmakers are receiving better information on the fish and wildlife, and other environmental aspects of the various OCS lease sales, and on possible mitigating measures that may be taken to protect natural environments. This information is enabling more balanced decisions to be made. In addition, much of the effort involves collation, analyses and syntheses of existing data, thus reducing the need for expensive field investigations in many cases.

(5) Water Resource Analysis — Total $1,212,000
Total 25 positions

This subprogram consists of applied research, analysis and technology transfer on two critical water resource development problems: stream alterations and western water allocation. The objectives are to develop improved capability to assess the ecological impacts of these activities and to mitigate or prevent ecological damage, and to make such information available rapidly for use within and outside of the Fish and Wildlife Service. The findings are utilized in the operations of the Land and Water Resource Development Planning Program under the Fish and Wildlife Coordination Act and by other agencies in their water development activities.

The Stream Alterations activities consist of studies of a wide range of problems affecting some of the most productive fish and wildlife habitat in the U.S. threatened by these practices. Examples are: gravel dredging in Alaska, bank stabilization and channel maintenance in the Mississippi and Missouri Rivers, and effects of channelization on riparian vegetation in the Southwest.

The Western Water Allocation activities are addressing ecological problems associated with flow reductions in the western U.S. Energy and other resource development decisions anticipated in the near future will make severe demands on existing water supplies which are already at critical thresholds in many areas in furnishing habitat for fish, wildlife, and endangered species. Decisions will have to be made concerning instream flow requirements to support aquatic life and riparian wildlife habitat.

To provide timely and responsive input to these decisions, the Service must upgrade its methodology, information, and data on qualitative and quantitative water requirements to maintain stream and associated terrestrial ecosystems. Because of the national emphasis on solving the energy problem by increasing domestic output, these efforts have focused initially on areas of DOI coal activities, on potential gasification and liquification developments, and Water Resources Council studies of water requirements for energy development.

Accomplishments through FY'77 include:

1. Completion of over ten studies designed to improve understanding of ecological impacts of stream alterations on a wide variety of stream types, and dissemination of the results for use by planning and decisionmaking personnel within and outside of the Service.

2. Provision of technical advice and assistance on stream alterations problems to the Corps of Engineers, Bureau of Reclamation, Environmental Protection Agency, Federal Highway Administration, Soil Conservation Service, and Federal Disaster Assistance Administration to influence when, where, and how such alterations can be accomplished in the interest of fish and wildlife habitat maintenance.

3. Data and information developed by studies is being utilized to modify bank stabilization methods in the Missouri River by the Corps of Engineers, cessation of environmentally damaging channelization on the Logan River, Utah, and by Federal Highway Administration and State Highway Departments in modifying road and bridge widening practices.

4. An assessment of the state-of-the-art of methodologies for determining instream flow needs has been completed. A multiyear effort has been initiated to close the identified methodology gaps.

5. A cooperative Instream Flow Service Group has been established with interagency participation and support. This Group is furnishing support and assistance to Federal and State agencies developing, testing, applying methodologies for determining instream flow needs. Supporting research projects to establish critical biological relationships and the necessary bibliographic and factual data banks are also underway.

Benefits of these activities include improved protection of fish and wildlife habitat in connection with water resource and related energy development. Information and methodology being developed is expected to focus on improved and more efficient protection and mitigation methods, minimize environmentally unacceptable siting of plants, avoid unnecessary litigation under National Environmental Protection Agency and related environmental protection legislation; and also identify those situations and practices where environmental impact will be negligible.

(6) Geothermal, Mineral, and Oil Shale Development — Total $1,000,000
Total positions: 14

This activity deals with the ecological effects of Department of Interior terrestrial energy and minerals, development programs, other than coal. The results provide impact to Department of Interior decisionmaking. Activities consist of applied research, technology transfer and operations support. The combined thrust of these efforts (as well as the Coal subprogram) is to develop an improved capability to deal with impacts of various terrestrial developments through strengthening Service staff capability, to develop information on important ecosystems, and to develop better techniques for environmental lease management and stipulations to apply in various emerging resource development situations.

The objective of the Federal geothermal program is to develop 10-15,000 megawatts of electric and thermal power by 1985, requiring that an estimated 30 million acres be leased. Most of the potential geothermal reservoirs exist on public lands in the West. A tenfold increase in the amount of Federal land leased within the next three years is estimated to achieve the national goal. These same lands support significant fish and wildlife resources which will be affected by geothermal development unless adequate environmental provisions are made. Service is participating in the Department of Interior geothermal program under a Memorandum of Understanding with Bureau of Land Management and U.S. Geological Survey to help prevent or minimize the adverse impacts on fish and wildlife associated with geothermal exploration and development. The Service's program provides early identification of alternatives to development of sensitive fish and wildlife habitat, and timely recommendations and stipulations to facilitate Federal leases and permits. At present, the most active geothermal areas are in California, Idaho, and the Rocky Mountains. Other areas of special interest are Utah, Washington, and Wyoming as each State has sites scheduled for leasing. Analysis of geothermal potential by geographic areas has shown that the Gulf States have substantial potential and studies have been initiated to evaluate technology and its impacts on fish and wildlife habitat in the Gulf area.

Increasing attention is being given to large scale mineral development activities, which are expected to increase with greater demands for these resources. To date, current emphasis has been on participating in Departmental and interagency studies of phosphate development (central and northern Florida and Idaho), but increased emphasis is expected on such developments as uranium (Montana, Colorado, and New Mexico), potash (southwest), and bentonite (west) with their associated mining by traditional as well as new technologies. With expanding demands for these resources we expect new stresses, particularly on threatened and endangered species.

Objectives of the oil shale activity have been to develop methodologies to mitigate "lost" habitats and rehabilitate disturbed habitat that results from the Prototype Leasing Program; and to evaluate the environmental costs of development, particularly as they relate to wildlife, based upon data collected during all phases of the Prototype Program. It is anticipated that the existing lease tracts will be in a "no development" mode during FY'77 and the first quarter of FY'78. However, new emphasis is being placed on the in-situ areas in Colorado and Utah which are scheduled for leasing in the last quarter of FY'77. The environmental baseline program will begin in FY'78. Major concerns during this period are the development of quantifiable techniques to monitor the true impact of oil shale development on fish and wildlife habitat.

Accomplishments through FY'77 have included:

1. Geothermal: (a) provided direct assistance to Bureau of Land Management in leasing 2 million acres of Department of Interior land, (b) prepared a Geothermal Handbook for use in assessing fish and wildlife

impacts, (c) conducted three national training workshops for Federal and State Biologists dealing with geothermal activities in the U.S., (d) conducted applied research and studies on various ecological problems.

2. Oil Shale: (a) provided Area Oil Shale Supervisor with an in-depth review on environmental baseline study design, and recommended changes that would permit design of an acceptable monitoring program, (b) prepared a two volume report on the fish, wildlife and habitat-oriented problems of oil shale development and outlined studies that could address the most critical issues, (c) supported the Department's accelerated in-situ oil shale leasing program--provided manpower on the site-selection team for in-situ base tracts, (d) provided representation on the Oil Shale Environmental Advisory Panel - chaired the Wildlife Subcommittee, (e) supported the Area Oil Shale Supervisor with full time assignment of Service terrestrial ecologist to provide overview on biological aspects of leasing program, (f) cooperated with Soil Conservation Service, two Colorado Soil Conservation Districts, Bureau of Land Management and portions of the Oil Shale and coal industry in supporting a plant materials center oriented toward wildlife/spent shale rehabilitation, (g) conducted studies and applied results on ecological aspects of oil shale development.

3. Minerals: (a) participated on the interagency task force that developed the draft Environmental Impact Statement for Southeast Idaho Phosphate and conducted studies to address key environmental issues such as presence or absence of endangered species, (b) using funds from BLM and Endangered Species program, led a Secretarial initiative in evaluating the impacts of phosphate development on endangered or threatened species in the Osceola National Forest and adjacent areas, and (c) led the wildlife portion of the Presidentially-ordered study of central Florida Phosphate Environmental Impact Statement, assisted Environmental Protection Agency in developing the overall study plan, represented Interior in evaluating responses to the Environmental Protection Agency Request for Proposal, and initiated the wildlife baseline portions of the study.

Benefits of the geothermal, mineral and oil shale activities are: Methodologies will be developed to allow for proper planning of mitigation measures to be taken in response to development impacts, environmental stipulations attached to future mineral leases will be modified to reflect experiences gained in the Oil Shale Prototype program wh'ch in turn should result in fewer dollars being spent and better data being provided, and a greater understanding of lease management from the biological perspective will be gained. Through Service participation in operational activities, such as the current geothermal leasing program, there will be greater assurance of protection of fish and wildlife resources. Overall, development of an FWS capability to provide sound ecological input will have increasing utility to a variety of Department of Interior minerals development programs.

D. Cooperative Fishery and Wildlife Research Units

Program Description - Fiscal Year 1977, $2,997,000, Fiscal Year 1978, $2,997,000; Total positions: 94.

The objectives are to conduct coordinated, cooperative research and advanced training programs related to fishery and wildlife resources.

Twenty-five Cooperative Fishery and twenty Cooperative Wildlife Research Units are located at universities throughout the country. The Units are jointly directed by the Service and cooperating State fish and game agencies and universi-

ties. During 1976 over 150 graduate professionals were trained and most were employed in key positions in Federal and State conservation agencies. Program emphasis has shifted from training to research, particularly research directed toward National and regional conservation problems. During 1977 Unit staffs will supervise or conduct over 400 research projects as outlined below.

Program	Number of Studies	
	FY 1977 Actual	FY 1978 Estimate
Biological Services	90	96
Land and Water Development	32	38
Environmental Contaminant Evaluation	15	19
Inland Fisheries and Reservoirs	102	96
Coastal Anadromous Fisheries	37	34
Great Lakes Fisheries	6	6
Migratory Birds	43	43
Mammals and Non-Migratory Birds	74	70
Animal Damage Control	26	25
Endangered Species	11	14
Interpretation and Recreation	5	5
Total Studies	441	446

The Unit Program contunues to further Federal-State cooperation and improve on strong working relationships. Unit staff serve on numerous planning task forces, special detail assignments, provide technical assistance to field personnel and assist in retraining or updating State and Federal employees.

Examples of Accomplishments

The Units provided baseline data and valuable management information on major conservation problems (e.g., coastal zone development, changing land use patterns, stream alterations, environmental contaminants evaluation, power plant siting and other energy-related developments). In addition to base funding in 1977 and over $1,500,000 in Service contracts, the program generated over $2,200,000 from States, other Federal agencies and private organizations to support research of mutual interest. The percentages of research effort by Service programs based on the approximate expenditures of these total funds are as follows: Biological Services, 30%; Land and Water Resource Development, 7%; Environmental Contaminant Evaluation, 2%; Inland Fisheries and Reservoirs, 19%; Coastal Anadromous Fish, 8%; Great Lakes Fisheries, 1%; Migratory Birds, 8%; Mammals and Non-Migratory Birds, 16%; Animal Damage Control, 5%; Endangered Species, 3%; and Interpretation and Recreation, 1%.

In 1976, Unit personnel conducted or participated in teaching 20 short courses and 17 workshops, involving more than 1,800 State and Federal Employees, to supplement the resource management background of both new and experienced bio-

logists of participating agencies. Of the graduate students produced in 1976, 70% are already employed by conservation agencies, 17% are continuing their education and only 13% are unemployed or only marginally employed with respect to their fish and wildlife training.

Examples of current research involvements through the Units which benefit the Service and other cooperators include: assessments of the biological effects of stream alterations for flood control, ranging from studies on the Mississippi River to small watershed studies including the waterfowl breeding grounds, investigations of the response of caribou to Arctic pipeline developments; studies of the effects of exotic fishes and their interactions with native species; schemes for increasing capabilities of management agencies for rapid resource decisionmaking; development of habitat assessment methodologies; and large scale, interdisciplinary investigations into the effects of strip mining and other energy developments. Additional benefits include: development of increased capability and flexibility of the Service to respond to priority research needs; close contact with professionals in the academic community; provisions for the dissemination of research information and management recommendations to appropriate agencies; training of minority students; continuing education of Federal and State biologists; promotion of conservation education; and providing technical assistance to Federal and State agencies on fishery and wildlife problems.

E. GSA Space Costs + $59,000

Beginning in FY 1975 and in compliance with the Public Buildings Amendments of 1972, PL 92-313, agencies are charged for space and related services provided by the General Services Administration at rates approximately equivalent to commercial charges. The amount requested is required to reimburse GSA for office, special, and storage space needed by the Service to further efforts toward achieving program objectives.

2. Wildlife Resources: Fiscal year 1977, $62,422,000; Fiscal year 1978, $76,111,000; increase of $13,689,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) +$7,809,000	+265	$42,588,000	1,352	Migratory Birds - Cyclic maintenance and improved oper. of refuges, training of refuge employees, law enforcement, research, employee compensation.
(B) + 1,520,000	+ 52	11,480,000	338	Mammals and Non-Migratory Birds - ANCSA, cyclic maintenance and improved operation of refuges.
(C) + 1,100,000	--	11,240,000	260	Animal Damage Control - mammal control
(D) + 3,100,000	+ 90	10,643,000	300	Interpretation and Recreation - cyclic maintenance and improved operation of refuges.
(E) + 160,000		160,000	--	GSA Space Costs
+$13,689,000	+407	$76,111,000	2,250	

Program Synopsis

The Fish and Wildlife Service has a leadership role in the enhancement and control of the Nation's wildlife resources to assure that sufficient populations are available for the use and enjoyment of all Americans, and a principal responsibility for management of migratory birds as dictated by international agreements and treaties. To carry out these responsibilities, the Service: (1) maintains an extensive wildlife refuge system consisting of 385 national wildlife refuges and 20 national wetland management districts containing about 33.9 million acres of land and water managed for both migratory birds and other wildlife of national significance; (2) guides and coordinates national and international migratory bird management; (3) carries out Service responsibilities under the Marine Mammal Protection Act; (4) enforces Federal game laws and regulations; (5) provides technical assistance in the management of wildlife on Indian and other Federal lands; (6) provides opportunity for the public to enjoy compatible recreation on Service lands, preserves historic, cultural and designated natural environments, and helps the public better understand man's role in his environment; (7) conducts research to improve wildlife management capabilities and to better understand wildlife ecosystem relationships, and (8) provides direct and extension assistance to Federal, State, Indian, and other public or private entities to responsibly control wildlife causing damage to human enterprises.

Major program changes include increased funding for: (1) cyclical maintenance on national wildlife refuges, strengthening the operations and rehabilitation of existing refuges, and improving refuge law enforcement and basic manager training to benefit refuge wildlife resources; (2) law enforcement equipment; (3) increasing migratory bird research efforts on marine birds and other coastal species and implementing a systematic evaluation of the fish and wildlife responsibilities in

the Pacific Trust Territories, and (4) cooperative research investigations with the State of Alaska and studies of areas needed to replace fish and wildlife habitat and refuge values to be lost when over 2 million acres of Alaskan refuge lands are conveyed to private ownership pursuant to the Alaska Native Claims Settlement Act, preparing for congressional reviews and public hearings, and consummating cooperative agreements with Native Village and Regional Corporations and concerned Federal agencies.

Pronghorn Antelope

A. Migratory Birds

Fiscal year 1977, $34,779,000; Fiscal year 1978: $42,588,000, increase of $7,809,000.

Major Program Changes	Increases	Total Program
(1) Migratory Bird Refuges; Bicentennial Heritage, cyclical maintenance, training, and employee compensation.	$+7.222,000	$28,042,000
	+265 positions	949 positions

Proposal

(a) Bicentennial Land Heritage Program. A total increase of $7,000,000 will be used to fund 407 new positions, $4.6 million for migratory bird refuges, $.8 million for mammals and non-migratory bird refuges and $1.6 million for interpretation and recreation, to provide improved operations and maintenance on National Wildlife Refuges. Those portions of the requested $7,000,000 which are for other than migratory bird purposes are presented in the appropriate program sections of the Justifications. The list of stations to receive funding under this proposal and cyclical maintenance can be found on pages FWS-47 . Funds will be selectively allotted to provide a better balance between work needed to be done within the National Wildlife Refuge System and the money and manpower available to do it. Deficiencies that will be substantially corrected are: (1) need for additional funds and manpower to manage lands added to the system in the past without sufficient personnel or operating funds also being supplied; (2) manpower to meet new legislative and judicial mandates for which funds to implement have been lacking; and (3) reduced purchasing capability brought on by escalating costs. ($4,600,000; +265 positions)

(b) Cyclical Maintenance. Wildlife refuge, fishery, and research installations need a source of annual funds for accomplishing cyclical maintenance work. A total of $6 million will be used to keep facilities and equipment in good repair through a planned program of scheduled maintenance and replacement. Examples of this work would include painting buildings according to a planned schedule, replacing vehicles at standard mileage intervals, and graveling roads as needed. The funds will be allocated as follows, $1.87 million to wildlife refuges for migratory birds, $2 million to fishery facilities, $.33 million to mammal and non-migratory bird refuges, $.30 million to research facilities and $1.5 million to interpretation and recreation facilities on wildlife refuges.

Those portions of the proposed $6 million which are for other than migratory birds are presented in the appropriate program section of this Justification. The list of stations to receive funding from this proposal can be found on pages FWS -47 . ($1,870; no positions)

(c) Refuge Manager Training. An expenditure of $220,000 is planned in FY 1978 to reactivate the Service's Refuge Manager Training Academy and to provide a framework to establish it as a permanent operation. Increased law enforcement training will be provided to 300 refuge personnel at the Law Enforcement Training Center in Brunswick, Georgia, at a cost of $136,000. ($356,000; 0 positions)

(d) Employee Compensation. The increase is needed to reimburse the Bureau of Employee Compensation, Department of Labor, for payment made to employees of the Fish and Wildlife Service or their survivors for work related injuries or deaths ($396,476; 0 positions).

Justification

(a) Bicentennial Land Heritage Proposal. There is an urgent need to increase operational funds and personnel of the wildlife refuge system. Nearly 80 percent of operation and maintenance funds available for the refuge system are expended on salaries, and there has been virtually no change in permanent full-time personnel in the system since FY 1966. During this period, the number of refuges increased 27 percent while the acreage of the refuge system increased 14 percent. Of the total 385 refuges, 202 (52.2 percent) currently are operated at essentially a mothball level. No personnel are stationed on these refuges which are supervised and protected from a distant station. Management consists of occasional visits. Another 113 refuges (29.4 percent) are managed at the custodial level with one to three people assigned to the area. Legal mandates are barely met. It is essential the Service continue to maintain, develop and operate the National Wildlife Refuge System to produce maximum benefit to the American people.

(b) Cyclical Maintenance. Based on past experience, about 3% of the total replacement value of the facilities and equipment on an installation should be spent on maintenance each year in order to prevent deterioration and keep the facilities and equipment productive.

The Fish and Wildlife Service has $500 million invested in facilities and equipment. The facilities include 5,500 miles of roads, 5,000 structures--ranging from small sheds to large visitor centers and research stations, 22,000 miles of dikes and levees, 7,300 miles of fence, and a large complement of equipment. The workload involved in maintaining these facilities is substantial. In the past the Service has not been able to keep the cyclical maintenance level on these facilities high enough to adequately protect their useful life expectancy and maintain their operational effectiveness. Prolonged deferment of cyclical maintenance has resulted in a $70 million backlog of facility rehabilitation needs on wildlife refuges alone. With the above funds a maintenance program can be instituted which would be aimed at promoting occupational safety, improving efficiency and effectiveness of Service facilities and equipment, and providing visitors using Service installations with safe, wholesome and pleasant surroundings.

(c) Refuge Manager Training. The refuge manager training program which formerly proved to be of substantial benefit to the Service, has been inactive for years. There is a backlog of more than 200 employees who have not received the basic refuge management training plus another 150 who need to be updated on current national policies, procedures and new techniques. Funds will be used to plan courses, train instructors, acquire audio-visual equipment, arrange for appropriate facilities and provide the basic training for a minimum of two classes of approximately 60 students each. This will lay a sound basis for the training procedure for future years to ensure that all required personnel receive adequate training. A redesigned course structure for the Service Academy will incorporate the best features of the previous training program and add updated courses, new information and a sound professional training philosophy. All aspects of the Refuge System training from basic orientation, supervision, interpersonal relationships, management skills, safety, and administration will be provided. There will be a full time Director, with administrative and clerical support, to supervise the training operation.

A separate course to be taught at the Federal Law Enforcement Training Center in Brunswick, Georgia, will provide for increased and specific law enforcement training for selected refuge personnel. The 100 hour course will teach basic criminology, general law enforcement techniques and methods of handling violators of resource laws and regulations.

Goals of the law enforcement training are to develop a capability within the Refuge System that can more effectively reduce violations, develop skills in apprehending and prosecuting violators and provide properly trained employees to ensure public compliance with resource laws and regulations through better public understanding.

(d) Employee Compensation. These funds are required to reimburse the Bureau of Employee Compensation, Department of Labor, for payments made to employees of the Fish and Wildlife Service or their survivors for work related injuries or deaths.

Cost Factors

(a) Bicentennial Land Heritage Program. A total 4.6 million will be used for funding 265 new positions and conversion and hiring of temporary personnel to increase migratory bird operations and maintenance work on wildlife refuges.

(b) Cyclical Maintenance. Funds for cyclical maintenance work on migratory bird program facilities and equipment on wildlife refuges will consist of $935,000 for temporary personnel, $561,000 for supplies and materials and $374,000 for equipment.

(c) Refuge Manager Training. Refuge law enforcement training will require $110,000 to train 300 people at the Federal Law Enforcement Training Center, Brunswick, Georgia, and $26,000 for instructor travel and training. Funds will also be used at a cost of $55,000 for instructor training, travel, per diem and necessary equipment and $165,000 for students per diem and facility rental.

(d) Employee Compensation. Employee compensation payments to the Department of Labor are increased by $396,476.

(2) Migratory bird research	+$412,000;	total $5,621,000
	+0 positions;	total 108 positions

Proposal

(a) Migratory bird research personnel will compile and review available information on marine birds, establish liaison with appropriate individuals, agencies and organizations, and assist in developing a realistic coordinated National Management Plan. Plans to refine and evaluate monitoring techniques to measure population size and trends, will be developed.

As a complement to population status and distribution information, research plans will be developed to determine selected species characteristics including feeding habitats and energy requirements, and to relate climatic conditions, ocean currents and distribution of food to migratory patterns and marine bird concentrations. This information will provide an understanding of the relationship between marine birds and their habitat, identify key habitats which should be preserved and permit valid assessments of proposed developments and habitat changes. ($182,000; no positions).

(b) Cyclical maintenance will be performed at the Northern Prairie and Patuxent Wildlife Research Centers. ($230,000; no positions).

Justification

(a) Research is needed to identify species and populations of marine birds which need special protection and to determine future management needs regarding

law enforcement, refuge development and cooperative management programs to ensure perpetuation of the resource. Energy exploitation and transportation and the world search for protein from the sea may be having an adverse impact on marine species. Population status and habitat requirements of marine birds must be studied to evaluate the impact of these developments. Many of the species involved are long-lived, but have a low productivity. Consequently, minor adverse changes in productivity may be undetected for many years. Exploitation threatens the unique and valuable fragil ecosystems found on atolls and islands under U.S. jurisdiction, especially the U.S. Pacific Trust Territories, and information is lacking on species and numbers of birds found there.

(b) Cyclical Maintenance - Refer to page FWS-40.

Cost Factors

(a) Marine Bird Research. Research including temporary personnel, travel, supplies and equipment will require $182,000.

(b) Cyclical Maintenance. Annual facility maintenance costs of the two research centers will be $230,000.

(3) Migratory bird law enforcement $+175,000; total $5,396,000

0 positions; total 159 positions

Proposal

These funds will be used to acquire replacement aircraft and to develop a new automatic data processing capability within the law enforcement activities of the Service to identify and isolate those illegal activities which cause the greatest adverse effect on migratory birds.

The two aircraft requested will be used primarily for enforcement of the Migratory Bird Treaty Act in the Baltimore (Lexington Park, Md.) area including the Delmarva Pennisula and Chesapeake Bay and in New Orleans (Lafayette, La.) area including the coastal marshes of Louisiana and the Mississippi River. ($175,000; no positions)

Justification

These two new airplanes will replace two aircraft currently owned by the Service each of which is over ten years of age. One of these aircraft has been restricted to the ground since May 1975, because of the need of extensive repairs before it can be certified as safe to fly. The other aircraft is estimated by the Department of Interior, Office of Air Services to have three years of life remaining as of 1975. OMB Circular A-76 recommends the replacement of aircraft which are in excess of ten years old. With the addition of an ADP system, investigative report data can be analyzed along with other available information to pinpoint areas in which illegal activities are causing a major drain upon the migratory bird resource and increased law enforcement efforts can be directed toward these areas.

Cost Factors

The two aircraft to be purchased by the Service will be a Piper Super Cub with floats equipped with a 2-way radio at a cost of $33,000 and a Maulle Aircraft with floats and radio for a cost of $42,000. The computer program development for the Case Management System is estimated to cost $100,000.

Program Description

(1) Migratory Bird Refuges $7,222,000; total $28,042,000

+265 positions; total 949 positions

The National Wildlife Refuge System had its beginning in 1903 when President Roosevelt designated Pelican Island, Florida, as a refuge to protect nesting pelicans, herons and egrets from plume hunters. The National Wildlife Refuge System grew rapidly through Executive Orders, Public Land Orders, Acts of Congress and purchases. At the beginning of FY 1977, the System included 385 wildlife refuges encompassing 33.9 million acres located in 49 of the 50 states, the Commonwealth of Puerto Rico, American Samoa and the Trust Territories. In addition, there were 1.4 million acres of Waterfowl Production Areas in the north central states.

Although only 368 of the 385 refuges are specifically designated as Migratory Bird Refuges, Migratory Bird Program benefits occur on nearly every refuge. Approximately 8.5 million acres of refuge habitat are in inland water areas, another 3.5 million acres in coastal water areas. In addition there are 0.2 million acres of croplands partially used for feeding waterfowl, 2.7 million acres of grasslands partially used for nesting sites, 2.4 million acres of forestlands partially used for green timber reservoirs as feeding and nesting areas and 6.8 million acres of tundra partially used as feeding and nesting areas.

In FY 1975 over 432,000 refuge visitors (1.3% of total visitation) participated in interpretive programs and 13.5 million in wildlife oriented recreation (42.0%). In total, 26.3 million visitors (81.8%) participated in wildlife oriented activities on refuges. The majority of those activities were associated with migratory birds.

Migratory Bird Program results obtained on National Wildlife Refuges include:

	FY 1977 Estimate	FY 1978 Estimate
Number of migratory bird refuges	364	368
Acres of migratory bird refuges (million)	8.8	8.9
Waterfowl use days (millions)	1,680	1,700
Number of waterfowl produced (millions)	1.9	2.0
Other migratory bird use days (millions)	4,100	4,900

(2) Migratory Bird Management total $5,621,000
total 136 positions

The Migratory Bird Management subprogram provides overall direction for management and coordination of an international migratory bird program. It is the migratory bird management arm of the Service, functioning to provide information on the status and use of migratory bird resources, coordinating migratory bird management activities within the Service and among its cooperators, and guiding the preservation of migratory bird habitats. It deals with all groups of migratory birds, including both game and non-game species.

The subprogram objectives are accomplished by conducting annual surveys to determine the status of waterfowl, mourning dove, woodcock populations and other migratory birds. Nationwide surveys are conducted annually to estimate the numbers, location, species composition and age ratios of birds harvested by waterfowl hunters. The North American bird banding program is jointly administered with the Canadian Wildlife Service. Banding permits and supplies are issued to cooperators and detailed records are kept and made available for study purposes. An electronic data processing section provides essential services for the Bird Banding Laboratory, and support for the various survey and research activities.

Waterfowl management activities are coordinated with the States through representatives located in each of the four waterfowl flyways. White-winged dove, mourning dove and band-tailed pigeon management activities in the southwestern States are also coordinated by a field representative. Annual harvest regulations for migratory game birds are developed and promulgated in concert with the States and national conservation organizations.

Non-game bird activities, especially those involving raptors, are coordinated on a national basis. Liaison with other nations and international organizations is maintained to coordinate migratory bird research and management activities. Guidance is provided for preservation of migratory bird habitats, especially for waterfowl.

Management provides professional technical assistance to military, Indian, Federal and State agencies in developing programs for management of populations and habitat in accordance with legislative authority, cooperative agreements, memoranda of understanding and Departmental/Service policies. It is made available by direct assignment of professional Service personnel to management problems, by consultation, contracting and by use of extension service. There is in excess of 20 million acres of Indian land and 19.0 million acres of military land that possess considerable wildlife habitat value and potential. Professional management assistance is essential to the development and maintenance of this resource base that contributes economic benefits to the Indians, and valuable recreation and wildlife experiences for the general public.

The output from management (subprogram) activities includes annual status reports on waterfowl, mourning doves and woodcock; annual status reports on hunter activity and harvest of waterfowl; receipt, storage and analysis of over one million bird banding records annually; preparation of annual harvest regulations for migratory game birds, and assistance to 60 military installations and 25 Indian reservations.

The benefits of these activities include the assurance that controlled human use of the migratory bird resource will have no long-term negative affect on the survival of game and non-game migratory bird populations. Recreational benefits are being provided to more than two million waterfowl hunters, substantial numbers of dove hunters, many other migratory game bird hunters, and a much larger number of bird-watchers. Data are accumulated and analyzed to enhance the scientific and casual study of migratory birds. Migratory bird habitats are preserved through acquisition to aid in the preservation of game and non-game species.

(3) Migratory Bird Research +$412,000; total $3,529,000

0 positions; total 108 positions

Migratory bird research studies are conducted to provide techniques and information needed for preserving and improving habitat, for proper

setting of game bird regulations, for managing migratory bird populations including marine birds, for assessing impact of different types of land use and development, and for increasing public understanding of the resource and its habitat.

Major research efforts are conducted to (1) determine habitat quality and improve land management practices; (2) develop techniques for monitoring migratory bird populations and measuring the effect of different harvest regulations; and (3) reduce the impact of disease on migratory bird populations. Some studies are designed to determine ecological factors influencing migratory bird production and distribution. Principal studies are being carried out on dabbling and diving ducks on prairie breeding areas, on black ducks on eastern breeding and wintering areas, on canvasbacks wintering on the Chesapeake Bay, on migratory birds on the Pacific Coast and on eastern populations of mourning doves and woodcock. In addition, wetland and upland habitat quality, quantity and land management practices are being evaluated, particularly in the prairie grasslands subject to increasingly intensive land use by agriculture. This effort is directed at increasing wildlife productivity on Federal and state-owned wildlife areas especially by assessing safer nesting cover and factors affecting aquatic ecosystems with accompanying waterfowl foods.

Important migratory bird diseases are diagnosed and studied at the National Fish and Wildlife Health Laboratory at Madison, Wisconsin. Systematic and distributional investigations and scientific specimen maintenance of the national bird collection is supervised by the National Fish and Wildlife Laboratory.

Research studies on non-game migratory bird species are primarily limited to raptor population studies in the southwest, urban wildlife studies, breeding bird surveys and habitat requirements of shore birds along the Massachusetts coast.

Research provides basic information on habitat requirements and population measurement to aid management decisions that result in better protection and maintenance of the migratory bird resource for enjoyment by all citizens. Specifically, migratory bird research provides: (1) information for wildlife administrators on which meaningful land and water utilization decisions can be determined; (2) information for wildlife administrators on the effect of various harvest regulations for consideration in regulation setting processes; (3) more efficient and accurate methods for monitoring population status of migratory bird species and thus enabling earlier identification of any species with declining population so that corrective steps may be initiated; (4) information on how to reduce migratory bird losses through earlier detection and proper control of losses due to disease.

(4) Law Enforcement +$175,000; total $5,396,000

+0 positions; total 159 positions

It is Law Enforcement's responsibility to detect, investigate, apprehend and refer to prosecutors, violators of the Migratory Bird Treaty, Migratory Bird Hunting Stamp, National Wildlife Refuge Administration and Bald Eagle Acts. To obtain compliance with these laws the following methods are applied: (1) education as to requirements of various laws; (2) removal of the opportunity to violate; and (3) creation of a deterrent to violations. The purpose of these enforcement actions is to minimize the prohibited human interference with migratory bird resources.

83-561 O - 77 - 23

Benefits resulting from Law Enforcement include: (1) protection of the resource, prevention of its decline in population, thereby prohibiting species from becoming excessively low in number; (2) contribution to equitable recreational opportunity for the optimum number of non-consumptive users of wildlife and; (3) provisions for esthetic environmental quality.

Summary MB Program Results

	FY 77 Estimate	FY 78 Estimate
Number of Migratory Bird Refuges	364	368
Acres of Migratory Bird Refuges (thousand)	8,800	8,900
Acres of Waterfowl Production Areas - fee (thousand)	438	462
Acres of Waterfowl Production Areas - easement (thousand)	1,096	1,121
Refuge Waterfowl Use Days (million)	1,680	1,700
Refuge and WPA Waterfowl Production (million)	1.9	2.0
Major Surveys Conducted	10	10
Birds Banded (million)	1.2	1.2
Research Studies	100	105
Law Violations (cases completed)	13,000	13,500

Hooded Mergansers

Refuge Bicentennial and Cyclical Maintenance Increases

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
ALABAMA			
Choctaw			
Migratory Birds	10	4	
Interpretation & Recreation	7	1	
Totals	17	5	22
Eufaula			
Migratory Birds	9	4	
Mammals & Non-Mig. Birds		3	
Interpretation & Recreation	9	2	
Totals	18	9	27
Wheeler			
Migratory Birds	13		
Mammals and Non-Mig. Birds	6	4	
Interpretation & Recreation	11	1	
Totals	30	5	35
ALASKA			
Aleutian Island			
Migratory Birds	93	82	
Mammals and Non-Mig. Birds		5	
Interpretation & Recreation		20	
Totals	93	107	200
Arctic			
Migratory Birds	17	44	
Mammals and Non-Mig. Birds		11	
Interpretation & Recreation		13	
Totals	17	68	85
Clarence Rhode			
Migratory Birds		77	
Interpretation & Recreation		20	
Totals		97	97
Izembek			
Migratory Birds	10	38	
Mammals and Non-Mig. Birds		11	
Interpretation & Recreation	16	7	
Totals	26	56	82
Kenai			
Migratory Birds		27	
Mammals and Non-Mig. Birds		11	
Interpretation and Recreation	48	27	
Totals	48	65	113
Kodiak			
Migratory Birds		27	
Mammals and Non-Mig. Birds	19	11	
Interpretation and Recreation	25	16	
Totals	44	54	98

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
ARIZONA			
Cabeza Prieta			
Migratory Birds		1	
Mammals & Non-Mig. Birds	6	8	
Interpretation & Recreation	1	2	
Totals	7	11	18
Cibola			
Migratory Birds	4	28	
Interpretation & Recreation	2	10	
Totals	6	38	44
Havasu			
Migratory Birds	12	34	
Mammals and Non-Mig. Birds		1	
Interpretation & Recreation	12	15	
Totals	24	50	74
Imperial			
Migratory Birds	11	36	
Interpretation & Recreation	3	4	
Totals	14	40	54
Kofa Game Range			
Migratory Birds		1	
Mammals and Non-Mig. Birds	9	16	
Interpretation & Recreation	4	7	
Totals	13	24	37
ARKANSAS			
Big Lake			
Migratory Birds	8	20	
Interpretation & Recreation	7	3	
Totals	15	23	38
Felsenthal			
Migratory Birds		136	
Mammals and Non-Mig. Birds		10	
Interpretation & Recreation		22	
Totals		168	168
Holla Bend			
Migratory Birds	10	2	
Mammals and Non-Mig. Birds	2		
Interpretation & Recreation	7	2	
Totals	19	4	23
Wapanocca			
Migratory Birds	11	2	
Mammals and Non-Mig. Birds		2	
Interpretation & Recreation	9	1	
Totals	20	5	25

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
ARKANSAS (con't)			
White River			
Migratory Birds	20	11	
Mammals and Non-Mig. Birds	7	3	
Interpretation & Recreation	20		
Totals	47	14	61
CALIFORNIA			
Humboldt Bay			
Migratory Birds		27	
Totals		27	27
Kern			
Migratory Birds	14	49	
Totals	14	49	63
Klamath Basin			
Migratory Birds	39	29	
Interpretation & Recreation	30	27	
Totals	69	56	125
Sacramento			
Migratory Birds	35	114	
Interpretation & Recreation	22		
Totals	57	114	171
Salton Sea			
Migratory Birds		1	
Totals		1	1
San Francisco Bay			
Migratory Birds		82	
Interpretation & Recreation		57	
Totals		139	139
San Luis			
Migratory Birds	58	27	
Interpretation & Recreation	9		
Totals	67	27	94
COLORADO			
Alamosa			
Migratory Birds	10	36	
Interpretation & Recreation	6		
Totals	16	36	52
Arapaho			
Migratory Birds	4	37	
Mammals and Non-Mig. Birds	1		
Interpretation & Recreation	2		
Totals	7	37	44
Browns Park			
Migratory Birds	5	37	
Mammals and Non-Mig. Birds	1		
Interpretation & Recreation	4		
Totals	10	37	47

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
COLORADO (con't)			
Monte Vista			
Migratory Birds	17	21	
Mammals and Non-Mig. Birds	1		
Interpretation & Recreation	4	22	
Totals	22	43	65
DELAWARE			
Bombay Hook			
Migratory Birds	12	22	
Mammals and Non-Mig. Birds		2	
Interpretation & Recreation	6	3	
Totals	18	27	45
Prime Hook			
Migratory Birds	8	12	
Interpretation & Recreation	2	6	
Totals	10	18	28
FLORIDA			
Chassahowitzka			
Migratory Birds	7	15	
Interpretation & Recreation	1	3	
Totals	8	18	26
Hobe Sound			
Migratory Birds	6		
Interpretation & Recreation	6	4	
Totals	12	4	16
J.N. "Ding" Darling			
Migratory Birds	7	6	
Interpretation & Recreation	9	11	
Totals	16	17	33
Lake Woodruff			
Migratory Birds	7	8	
Mammals and Non-Mig. Birds	3	5	
Interpretation & Recreation	1	6	
Totals	11	19	30
Loxahatchee			
Migratory Birds	21	51	
Interpretation & Recreation	16	13	
Totals	37	64	101
Merritt Island			
Migratory Birds	13	11	
Mammals and Non-Mig. Birds		2	
Interpretation & Recreation	9	9	
Totals	22	22	44
National Key Deer			
Migratory Birds	6	13	
Interpretation & Recreation	6	5	
Totals	12	18	30

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
FLORIDA (con't)			
Pelican Island			
Migratory Birds		2	
Interpretation & Recreation	1	3	
Totals	1	5	6
St. Marks			
Migratory Birds	11	17	
Mammals and Non-Mig. Birds	6	8	
Interpretation & Recreation	16	11	
Totals	33	36	69
St. Vincent			
Migratory Birds	6	5	
Mammals and Non-Mig. Birds	6	8	
Interpretation & Recreation	3	5	
Totals	15	18	33
GEORGIA			
Okefenokee			
Migratory Birds	5	4	
Mammals and Non-Mig. Birds	3	4	
Interpretation & Recreation	22	9	
Totals	30	17	47
Piedmont			
Migratory Birds	3	4	
Mammals and Non-Mig. Birds	10	7	
Interpretation & Recreation	6	8	
Totals	19	19	38
HAWAII			
Hawaiian Islands			
Migratory Birds		40	
Totals		40	40
IDAHO			
Camas			
Migratory Birds	2	3	
Totals	2	3	5
Deer Flat			
Migratory Birds	2	1	
Interpretation & Recreation	6	27	
Totals	8	28	36
Grays Lake			
Migratory Birds	6	6	
Totals	6	6	12
Kootenai			
Migratory Birds	2	5	
Totals	2	5	7
Minidoka			
Migratory Birds	6		
Totals	6		6

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
ILLINOIS			
Crab Orchard			
Migratory Birds		33	
Mammals and Non-Mig. Birds		38	
Interpretation & Recreation	30	47	
Totals	30	118	148
Mark Twain			
Migratory Birds	5	50	
Interpretation & Recreation		16	
Totals	5	66	71
INDIANA			
Muscatatuck			
Migratory Birds	6	16	
Interpretation & Recreation		16	
Totals	6	32	38
IOWA			
DeSoto			
Interpretation & Recreation	24	38	
Totals	24	38	62
Union Slough			
Migratory Birds	4	21	
Interpretation & Recreation	7		
Totals	11	21	32
KANSAS			
Flint Hills			
Migratory Birds	11	49	
Interpretation & Recreation	11		
Totals	22	49	71
Kirwin			
Migratory Birds		21	
Interpretation & Recreation	11		
Totals	11	21	32
Quivira			
Migratory Birds	20	21	
Totals	20	21	41
LOUISIANA			
Catahoula			
Migratory Birds	5	27	
Mammals and Non-Mig. Birds	2	3	
Interpretation & Recreation	7	4	
Totals	14	34	48
D'Arbonne			
Migratory Birds		82	
Mammals and Non-Mig. Birds		3	
Interpretation & Recreation		15	
Totals		100	100

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
LOUISIANA (con't)			
Delta-Breton			
Migratory Birds	9	5	
Interpretation & Recreation	2		
Totals	11	5	16
Lacassine			
Migratory Birds	11	9	
Interpretation & Recreation	7	2	
Totals	18	11	29
Sabine			
Migratory Birds	11	6	
Mammals and Non-Mig. Birds		1	
Interpretation & Recreation	7	2	
Totals	18	9	27
MAINE			
Moosehorn			
Migratory Birds	7	17	
Mammals and Non-Mig. Birds	2	4	
Interpretation & Recreation	6	1	
Totals	15	22	37
MARYLAND			
Blackwater			
Migratory Birds	12	22	
Mammals and Non-Mig. Birds	2	5	
Interpretation & Recreation	11	8	
Totals	25	35	60
Eastern Neck			
Migratory Birds	8	22	
Mammals and Non-Mig. Birds		2	
Interpretation & Recreation	4	5	
Totals	12	29	41
Martin			
Migratory Birds	2	11	
Totals	2	11	13
MASSACHUSETTS			
Great Meadows			
Migratory Birds	4	20	
Interpretation & Recreation	10	5	
Totals	14	25	39
Parker River			
Migratory Birds	10	38	
Interpretation & Recreation	25	11	
Totals	35	49	84
MICHIGAN			
Seney			
Mammals and Non-Mig. Birds	20	19	
Interpretation & Recreation	23	16	
Totals	43	35	78

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
MICHIGAN (con't)			
Shiawassee			
Migratory Birds	21	50	
Interpretation & Recreation		16	
Totals	21	66	87
MINNESOTA			
Agassiz			
Migratory Birds	54	16	
Mammals and Non-Mig. Birds		37	
Interpretation & Recreation		16	
Totals	54	69	123
Minnesota Wetlands Complex			
Migratory Birds	52	197	
Interpretation & Recreation	16	32	
Totals	68	229	297
Rice Lake			
Migratory Birds	6	50	
Mammals & Non-Mig. Birds	13		
Interpretation & Recreation	16		
Totals	35	50	85
Sherburne			
Migratory Birds		50	
Interpretation & Recreation	33		
Totals	33	50	83
Tamarac			
Migratory Birds	14	33	
Mammals and Non-Mig. Birds	12		
Interpretation & Recreation		16	
Totals	26	49	75
Upper Mississippi River			
Migratory Birds	5	66	
Mammals and Non-Mig. Birds		19	
Interpretation & Recreation	55	32	
Totals	60	117	177
MISSISSIPPI			
Hillside			
Migratory Birds	9	21	
Mammals and Non-Mig. Birds		8	
Interpretation & Recreation	9	9	
Totals	18	38	56
Noxubee			
Migratory Birds	10	3	
Mammals and Non-Mig. Birds	3	5	
Interpretation & Recreation	13	3	
Totals	26	11	37

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
MISSISSIPPI (con't)			
Yazoo			
Migratory Birds	14		
Mammals and Non-Mig. Birds		4	
Interpretation & Recreation	5		
Totals	19	4	23
MISSOURI			
Mingo			
Migratory Birds	6	21	
Interpretation & Recreation	16	22	
Totals	22	43	65
Squaw Creek			
Migratory Birds	6		
Interpretation & Recreation	11	22	
Totals	17	22	39
Swan Lake			
Migratory Birds	20	21	
Interpretation & Recreation	2	23	
Totals	22	44	66
MONTANA			
Benton Lake			
Migratory Birds	6	22	
Interpretation & Recreation	2		
Totals	8	22	30
Charles M. Russell			
Mammals and Non-Mig. Birds	33	91	
Interpretation & Recreation	13	27	
Totals	46	118	164
Medicine Lake			
Migratory Birds	22	21	
Interpretation & Recreation	3		
Totals	25	21	46
National Bison Range			
Migratory Birds	11		
Mammals and Non-Mig. Birds	9	22	
Interpretation & Recreation	7	27	
Totals	27	49	76
Ravalli			
Migratory Birds	3	20	
Interpretation & Recreation	2		
Totals	5	20	25
Red Rock Lakes			
Migratory Birds	8	44	
Interpretation & Recreation	12		
Totals	20	44	64

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
MONTANA (con't)			
UL Bend-Bowdoin			
Migratory Birds	10	22	
Interpretation & Recreation	2		
Totals	12	22	34
NEBRASKA			
Cresent Lake			
Migratory Birds	11	22	
Interpretation & Recreation	1		
Totals	12	22	34
Fort Niobrara/Valentine			
Migratory Birds	14	22	
Mammals and Non-Mig. Birds	4	22	
Interpretation & Recreation	20	27	
Totals	38	71	109
Hastings WMD			
Migratory Birds	22	51	
Interpretation & Recreation	2		
Totals	24	51	75
NEVADA			
Desert			
Migratory Birds	8		
Mammals and Non-Mig. Birds	16	28	
Interpretation & Recreation	6		
Totals	30	28	58
Ruby Lake			
Migratory Birds	6	2	
Interpretation & Recreation	21		
Totals	27	2	29
Stillwater			
Migratory Birds		22	
Totals		22	22
NEW JERSEY			
Brigantine			
Migratory Birds	11	22	
Mammals and Non-Mig. Birds		2	
Interpretation & Recreation	15	5	
Totals	26	29	55
Great Swamp			
Migratory Birds	11	27	
Mammals and Non-Mig. Birds	2	14	
Interpretation & Recreation	16	5	
Totals	29	46	75
NEW MEXICO			
Bitter Lake			
Migratory Birds	10	29	
Interpretation & Recreation	7	11	
Totals	17	40	57

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
NEW MEXICO (con't)			
Bosque del Apache			
Migratory Birds	25	49	
Mammals and Non-Mig. Birds		1	
Interpretation & Recreation	8	15	
Totals	33	65	98
Grulla			
Migratory Birds		1	
Totals		1	1
Las Vegas			
Migratory Birds	9	29	
Interpretation & Recreation	3	8	
Totals	12	37	49
Maxwell			
Migratory Birds	4	22	
Interpretation & Recreation	1	1	
Totals	5	23	28
San Andres			
Migratory Birds		1	
Mammals and Non-Mig. Birds	1	8	
Interpretation & Recreation		2	
Totals	1	11	12
Sevilleta			
Migratory Birds		3	
Mammals and Non-Mig. Birds	3	26	
Interpretation & Recreation		4	
Totals	3	33	36
NEW YORK			
Iroquois			
Migratory Birds	9	22	
Mammals and Non-Mig. Birds		5	
Interpretation & Recreation	10		
Totals	19	27	46
Montezuma			
Migratory Birds	8	32	
Mammals and Non-Mig. Birds		3	
Interpretation & Recreation	11	5	
Totals	19	40	59
Target Rock			
Migratory Birds	5	27	
Interpretation & Recreation	19	11	
Totals	24	38	62
NORTH CAROLINA			
Mattamuskeet			
Migratory Birds	16	13	
Interpretation & Recreation	6	5	
Totals	22	18	40

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
NORTH CAROLINA (con't)			
Pea Island			
Migratory Birds	9	6	
Interpretation & Recreation	2	3	
Totals	11	9	20
Pee Dee			
Migratory Birds	9	17	
Mammals and Non-Mig. Birds	2		
Interpretation & Recreation	3	4	
Totals	14	21	35
Pungo			
Migratory Birds	9	5	
Mammals and Non-Mig. Birds	3	4	
Interpretation & Recreation	6	5	
Totals	18	14	32
NORTH DAKOTA			
Arrowwood			
Migratory Birds	16	37	
Interpretation & Recreation	7	22	
Totals	23	59	82
Audubon			
Migratory Birds	19	21	
Interpretation & Recreation	1		
Totals	20	21	41
Des Lacs			
Migratory Birds	13	37	
Interpretation & Recreation	9		
Totals	22	37	59
Devils Lake WMD			
Migratory Birds	6	54	
Mammals and Non-Mig. Birds	11		
Interpretation & Recreation	9	27	
Totals	26	81	107
J. Clark Salyer			
Migratory Birds	16		
Interpretation & Recreation	3		
Totals	19		19
Kulm WMD			
Migratory Birds	7	22	
Totals	7	22	29
Tewaukon			
Migratory Birds	14	37	
Interpretation & Recreation	1		
Totals	15	37	52

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
NORTH DAKOTA (con't)			
Upper Souris			
Migratory Birds	6	22	
Interpretation & Recreation	3		
Totals	9	22	31
OHIO			
Ottawa			
Migratory Birds	66	34	
Interpretation & Recreation	2	16	
Totals	68	50	118
OKLAHOMA			
Optima			
Migratory Birds	2	31	
Interpretation & Recreation	1	1	
Totals	3	32	35
Salt Plains			
Migratory Birds	14	45	
Interpretation & Recreation	6	8	
Totals	20	53	73
Sequoyah			
Migratory Birds	9	35	
Interpretation & Recreation	7	9	
Totals	16	44	60
Tishomingo			
Migratory Birds	17	45	
Mammals and Non-Mig. Birds		1	
Interpretation & Recreation	7	13	
Totals	24	59	83
Washita			
Migratory Birds	10	29	
Interpretation & Recreation	4	10	
Totals	14	39	53
Wichita Mountains			
Migratory Birds		1	
Mammals and Non-Mig. Birds	21	48	
Interpretation & Recreation	69	60	
Totals	90	109	199
OREGON			
Malheur			
Migratory Birds	66	24	
Interpretation & Recreation	35	29	
Totals	101	53	154
Sheldon-Hart Mountain			
Migratory Birds	8	2	
Mammals and Non-Mig. Birds	41	65	
Interpretation & Recreation	11		
Totals	60	67	127

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
OREGON (con't)			
Umatilla			
Migratory Birds	8	4	
Interpretation & Recreation	26	27	
Totals	34	31	65
William F. Finley			
Migratory Birds	8	3	
Interpretation & Recreation	6		
Totals	14	3	17
PENNSYLVANIA			
Erie			
Migratory Birds	8	13	
Mammals and Non-Mig. Birds	2	5	
Interpretation & Recreation	3	5	
Totals	13	23	36
Tinicum			
Migratory Birds		32	
Interpretation & Recreation	10	22	
Totals	10	54	64
RHODE ISLAND			
Ninigret			
Migratory Birds	2	22	
Interpretation & Recreation	8	9	
Totals	10	31	41
SOUTH CAROLINA			
Cape Romain			
Migratory Birds	9	12	
Mammals and Non-Mig. Birds	3		
Interpretation & Recreation	6	9	
Totals	18	21	39
Carolina Sandhills			
Migratory Birds	6	13	
Mammals and Non-Mig. Birds	6	8	
Interpretation & Recreation	9	5	
Totals	21	26	47
Santee			
Migratory Birds	16	13	
Interpretation & Recreation	5	5	
Totals	21	18	39
Savannah			
Migratory Birds	21	40	
Mammals and Non-Mig. Birds		3	
Interpretation & Recreation	18	11	
Totals	39	54	93
SOUTH DAKOTA			
Lacreek			
Migratory Birds	11	22	
Interpretation & Recreation	3		
Totals	14	22	36

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
SOUTH DAKOTA (con't)			
Lake Andes			
Migratory Birds	7	22	
Interpretation & Recreation	2		
Totals	9	22	31
Madison WMD			
Migratory Birds	5	22	
Interpretation & Recreation	1		
Totals	6	22	28
Sand Lake			
Migratory Birds	19	22	
Interpretation & Recreation	9	22	
Totals	28	44	72
Waubay			
Migratory Birds	4	37	
Interpretation & Recreation	8		
Totals	12	37	49
TENNESSEE			
Cross Creeks			
Migratory Birds	10	11	
Interpretation & Recreation	9	2	
Totals	19	13	32
Hatchie			
Migratory Birds	7	2	
Mammals and Non-Mig. Birds		1	
Interpretation & Recreation	6	2	
Totals	13	5	18
Reelfoot			
Migratory Birds	10	4	
Mammals and Non-Mig. Birds	3		
Interpretation & Recreation	6	1	
Totals	19	5	24
Tennessee			
Migratory Birds	19	13	
Mammals and Non-Mig. Birds		6	
Interpretation & Recreation	13	8	
Totals	32	27	59
TEXAS			
Anahuac			
Migratory Birds	10	36	
Interpretation & Recreation	6	4	
Totals	16	40	56
Aransas			
Migratory Birds	28	50	
Mammals and Non-Mig. Birds		3	
Interpretation & Recreation	14	22	
Totals	42	75	117

FWS-61

83-561 O - 77 - 24

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
TEXAS (con't)			
Attwater			
Migratory Birds	2	6	
Interpretation & Recreation	1	4	
Totals	3	10	13
Brazoria			
Migratory Birds	4	32	
Interpretation & Recreation	2		
Totals	6	32	38
Buffalo Lake			
Migratory Birds	7		
Interpretation & Recreation	2		
Totals	9		9
Hagerman			
Migratory Birds	9	27	
Interpretation & Recreation	2	5	
Totals	11	32	43
Laguna Atascosa			
Migratory Birds	16	48	
Mammals and Non-Mig. Birds		1	
Interpretation & Recreation	10		
Totals	26	49	75
Muleshoe			
Migratory Birds	5	12	
Interpretation & Recreation	1	4	
Totals	6	16	22
San Bernard			
Migratory Birds	3	23	
Interpretation & Recreation	2	3	
Totals	5	26	31
Santa Ana			
Migratory Birds	5	19	
Interpretation & Recreation	4	13	
Totals	9	32	41
UTAH			
Bear River			
Migratory Birds	14	22	
Interpretation & Recreation	13	27	
Totals	27	49	76
Fish Springs			
Migratory Birds	11	37	
Mammals and Non-Mig. Birds	1		
Interpretation & Recreation	3		
Totals	15	37	52
Ouray			
Migratory Birds	9	22	
Mammals and Non-Mig. Birds	1		
Interpretation & Recreation	2		
Totals	12	22	34

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
VERMONT			
Missisquoi			
Migratory Birds	4	13	
Interpretation & Recreation		4	
Totals	4	17	21
VIRGINIA			
Back Bay			
Migratory Birds	13	22	
Interpretation & Recreation	7	4	
Totals	20	26	46
Chincoteague			
Migratory Birds	12	24	
Mammals and Non-Mig. Birds	6	11	
Interpretation & Recreation	19	22	
Totals	37	57	94
Dismal Swamp			
Mammals and Non-Mig. Birds	17	22	
Interpretation & Recreation	8	11	
Totals	25	33	58
Mackay Island			
Migratory Birds	3	13	
Interpretation & Recreation	4	4	
Totals	7	17	24
Mason Neck			
Migratory Birds	2	9	
Interpretation & Recreation	6	10	
Totals	8	19	27
Presquile			
Migratory Birds	8	16	
Interpretation & Recreation	1	2	
Totals	9	18	27
WASHINGTON			
Columbia			
Migratory Birds	9		
Interpretation & Recreation	11		
Totals	20		20
Lower Columbia River			
Migratory Birds	19	46	
Interpretation & Recreation	65		
Totals	84	46	130
McNary			
Migratory Birds	22	28	
Totals	22	28	50
Nisqually			
Migratory Birds		39	
Interpretation & Recreation	11	27	
Totals	11	66	77

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
WASHINGTON (con't)			
Turnbull			
Migratory Birds	23	1	
Interpretation & Recreation	11		
Totals	34	1	35
WISCONSIN			
Horicon			
Migratory Birds	19	33	
Interpretation & Recreation	30		
Totals	49	33	82
Necedah			
Migratory Birds	12	50	
Mammals and Non-Mig. Birds	3		
Interpretation & Recreation	4	16	
Totals	19	66	85
WYOMING			
National Elk Refuge			
Mammals and Non-Mig. Birds	7		
Interpretation & Recreation	9	22	
Totals	16	22	38
Seedskadee			
Migratory Birds	4		
Mammals and Non-Mig. Birds	1	22	
Interpretation & Recreation	2		
Totals	7	22	29
NWRS			
Field Station Totals			
Migratory Birds	1,870	4,221	
Mammals and Non-Mig. Birds	330	702	
Interpretation & Recreation	1,500	1,471	
Totals	3,700	6,394	10,094
Personnel Costs - Regional Offices (Prepare EIS, Land ascertainment studies, etc.)			
Migratory Birds		332	
Mammals and Non-Mig. Birds		80	
Interpretation & Recreation		109	
Totals		521	521
Personnel Costs - Central Office (Review EIS, Overall Program Supervision)			
Migratory Birds		47	
Mammals and Non-Mig. Birds		18	
Interpretation & Recreation		20	
Totals		85	85
GRAND TOTALS:	3,700	7,000	10,700

Research Facility Increases

State/Station	Cyclical Maintenance ($000)	Bicent. Land Heritage ($000)	Station Total ($000)
COLORADO			
Denver Wildlife Research Center			
Mammals and Non-Mig. Birds	70		
Totals	70		70
MARYLAND			
Patuxent Wildlife Research Center			
Migratory Birds	150		
Totals	150		150
NORTH DAKOTA			
Northern Prairie Wildlife Research Center			
Migratory Birds	80		
Totals	80		80
Field Station Totals			
Migratory Birds	230		
Mammals and Non-Mig. Birds	70		
Totals	300		300

Elk

B. Mammals and Non-migratory Birds

Fiscal year 1977, $9,960,000; Fiscal year 1978, $11,480,000; increase of $1,520,000.

Major Program Changes

(1) Mammals and Non-migratory Bird Refuges +$1,200,000; total $5,611,000
+52 positions; total 206 positions

Proposal.

(a) Bicentennial Heritage Program. Funds will be allocated to better balance work needed to be done within the National Wildlife Refuge System and the money and manpower available to do it. For proposal details see Migratory Bird Program, page 39 ($800,000; +52 positions).

(b) Cyclical Maintenance. Funds will be used to accomplish cyclical maintenance work on wildlife refuges and research installations. The Denver Wildlife Research Laboratory will receive $70,000 and the remainder will be used on wildlife refuges. For proposal details see Migratory Bird Program, page 39 ($400,000; 0 positions).

Justification.

(a) Bicentennial Heritage Program. There is an acute need to repair deteriorated refuge facilities and properly protect and manage units recently added to the system. Funds and positions will permit proper management of refuges for the mammals and non-migratory birds resource. For complete justification see Migratory Bird Program, page 40. ($800,000; 52 positions).

(b) Cyclical Maintenance. A maintenance program will be initiated which will increase the efficiency and effectiveness of Service facilities. For complete justification statement see Migratory Bird Program, page 40. ($400,000; 0 positions).

Cost Factors.

(a) Bicentennial Heritage Program. Costs will consist of salaries and benefits for 52 permanent employees ($800,000).

(b) Cyclical Maintenance. Costs will consist of salaries and benefits for part-time personnel ($200,000); supplies and materials ($120,000); equipment ($80,000).

(2) Alaska Native Claims Settlement Act (ANCSA) +$320,000; total $1.574,000
+0 positions; total 20 positions

Proposal. An estimated 700 historic sites will be investigated and reported upon to make recommendations for possible conveyance under Sec. 14(h)(1) of Alaska Native Claims Settlement Act (43 U.S.C. 1601-1624, 85 Stat. 688), as amended. Twenty-three agreements with Native Corporations, and three interagency agreements will be developed and implemented. Basic natural resource data will be developed for 6 million acres of Alaska to make initial recommendations for possible use as refuge replacement lands pursuant to Section 22(e) ($320,000; 0 positions).

Justification. As implementation of ANCSA has progressed, a number of essential commitments for cooperative programs between the Service, other Federal agencies, the Native Corporations and the State (including the Joint Federal-State Land Use Planning Commission) have been made. Other cooperative agreements are being negotiated to accomplish program objectives and statutory mandates. Such commitments must be met to maintain the integrity of the Service's role in natural resource protection in Alaska. Quite often such cooperative efforts represent a desirable alternative to larger Service operations thereby resulting in manpower and dollar savings. As these cooperative activities expand, the existing staff and budget must be reinforced or other program objectives deferred.

Since the ANCSA requires that certain Service interests be retained on lands selected by the natives, the development and execution of cooperative agreements are needed to meet that mandate at minimal cost. The Service is working with the Bureau of Land Management and Bureau of Indian Affairs to facilitate rapid conveyance of valid land selections by the Native Corporations. Lack of personnel or funds for these efforts will hamper the timely transfer of land to the Corporations and could result in litigation, controversy and loss of important working relationships.

Expected benefits include the identification for refuge status as a result of native selections of over 2,000,000 acres of important fish and wildlife habitats as well as replacement of other natural resource values lost to the refuge system. Secondly, through establishment of close working relationships with Native Corporations, the losses of critical fish and wildlife and other values, which could occur through private ownership, can be minimized and/or mitigated. Failure to establish this relationship could cause far-reaching effects on wildlife resources throughout the State.

Cost Factors.

Cost factors will consist of salaries and benefits for temporary employees ($160,000); surplus and materials ($32,000); travel ($128,000).

Program Description.

Mammals and Non-migratory Bird Program +$1,520,000; total $11,480,000
+52 positions; total 338 positions

The mission of the Program is to assure that wildlife species not covered in other Fish and Wildlife Service programs are properly husbanded for the aesthetic, economic, recreational, nutritional and scientific enrichment of people. Major responsibilities extend to Service lands and to a lesser degree to other Federal lands, Indian Reservations, State and private lands, and involve a limited international commitment.

(1) Mammals and Non-migratory Bird Refuges +$1,200,000; total $5,611,000
+52 positions; 206 positions

National Wildlife Refuges are managed to protect and perpetuate wildlife populations and their habitats. Management is aimed at attaining and maintaining a natural diversity of wildlife at optimum population levels. Major recent accomplishments under the Mammals and Non-migratory Bird Program on refuges include: completion of the programmatic Environmental Impact Statement on the operation of National Wildlife Refuges; and sole jurisdiction and management of four game ranges as a result of P.L. 94-223.

National Wildlife Refuges provide opportunities for the American public to use mammal and non-migratory bird resources for recreation such as hunting

and photography, for commercial harvest, for subsistence, for educational enrichment, and for esthetic enjoyment. Refuges also serve to protect representative segments of a variety of wildlife habitat, thereby ensuring continued survival of the wildlife that depends on it.

Some of the major outputs provided are as follows:

Refuge System Lands	Estimate 1977	1978
Millions of acres	33.9	34.2
Outputs provided		
Big game use-days (Millions)	27	29
Trapping receipts (dollars)	40,000	40,000
Surplus animal receipts (dollars)	140,000	140,000
Number of specimens donated	3,500	3,500
Resident game hunter activity hours (thousands)	1,950	2,400

(2) Mammals and Non-migratory Birds Research **total; $1,964,000**
total; 43 positions

Studies are conducted on marine mammals (sea otter, polar bear, walrus, manatee and dugong). These include research on biological and management needs; annual and seasonal distribution and abundance, population status, ecological relationships and habitat requirements. Other studies concern environmental effects of forest and range management practices, off-road recreational vehicles and other land use practices as they influence populations of mammals, birds, amphibians and reptiles. Research is conducted into the response of animal communities to fire and plant succession. Specific studies include elk winter range on the National Elk Range, habitat manipulation studies on the Kenai National Moose Range. and studies of effects of habitat management on wildlife on the Piedmont National Wildlife Refuge and Charles M. Russell National Wildlife Range.

Outputs of the research program on Mammals and Non-migratory Birds are varied. Annual status reports of marine mammals are a statutory requirement. Reports of the results of research studies take the form of progress reports to users, final reports summarizing results, recommendations and management implications as well as technical publications in journals and in-house publication series such as Special Scientific Reports. Special effort is made to communicate findings to potential users in a timely fashion.

Benefits from the research effort on mammals and non-migratory birds accrue chiefly to resource managers. Almost all research studies are undertaken to solve specific management problems or to provide basic data on which to base management decisions. Examples are: 1) a study demonstrated the value of dead trees and snags to forest wildlife and resulted in the U.S. Forest Service altering its policy regarding cutting of snags; 2) research on National Elk Refuge demonstrated that 2.5 pounds of pelletted alfalfa feed per day per elk were adequate to maintain wintering elk. This resulted in an annual savings of $35,000 in the supplemental feeding program. Knowledge derived from studies of marine mammals will permit management

of these animals towards the objective of optimum sustainable population, a mandate of the Marine Mammal Protection Act.

(3) Mammals and Non-migratory Bird Law Enforcement total $2,331,000
total 69 positions

This subprogram effort is directed toward enforcing provisions of the Lacey Act of 1900 (16 U.S.C. 701), National Wildlife Refuge System Administration Act of 1966 (16 USC 668), Airborne Hunting Act of 1956 as amended (16 USC 742) and the Marine Mammal Protection Act of 1972 (P.L. 92-522). Though resident wildlife species are protected primarily by State laws, Federal protection is extended to marine mammals, and all wildlife on National Wildlife Refuges. Assistance is provided to State wildlife officers on a cooperative, reciprocal basis. States are also assisted in investigating and prosecuting violations which involve interstate transportation of illegally taken wildlife. Enforcement of importation laws requires inspection of imported live wildlife and wildlife parts and products at ports of entry. Regulations to meet the requirements of authorizing Acts are written and promulgated.

Outputs for the law enforcement subprogram can be expressed in terms of numbers of investigations which are undertaken, or the number of violators that are convicted. These are more accurately termed "processes", however, since they are the means whereby the illegal take of wildlife is reduced, the production of wildlife is increased, or the importation of illegal exotic wildlife is decreased. Investigations for the subprogram are summarized below:

	FY-77	FY-78
Investigations opened	2200	2500
Investigations closed	2000	2300

The benefit from law enforcement is increased opportunity for legitimate public use of wildlife resources. With needed protection, wildlife habitat can support a diverse wildlife resource which provides recreational, commercial, or subsistence opportunities. Through the control of misuse, these opportunities are guarded and perpetuated for future generations.

(4) Alaska Native Claims Settlement Act (ANCSA) +$320,000; total $1,574,000
+0 positions; total 20 positions

The ANCSA allows Alaska natives to obtain patents to land presently within national wildlife refuges of the state. Various provisions are made for mitigating refuge losses resulting from these selections. The Secretary of the Interior is required to inventory wildlife resources of the state to designate where new refuges could be established on important wildlife habitat presently in the public domain. He is also to determine where wildlife values lost on existing refuges can be replaced, and where land exchanges might be made to mitigate losses.

Meeting the requirements of the Act requires evaluation of wildlife habitat of the entire state. This is a formidable, complex task which must be completed on a strict timetable. Coordination is necessary with the State, Native Corporations and other Federal agencies who have like responsibilities under the Act. Restrictions which are placed on withdrawn lands make it necessary to develop cooperative agreements with Native Corporations and

villages to guide the management of these lands.

Much of the wildlife habitat inventory has been completed, but evaluation of lands to be withdrawn must follow the actual selection. Numerous historical and cultural sites are being evaluated and access easements must be considered. Cooperative agreements are receiving priority attention. The Act provides that the Service has first buy-back rights if natives choose to sell selected lands. The short time permitted for a buy-back decision (120 days) makes it necessary for the Service to make advance assessments of lands which should be returned to the refuge system if the opportunity presents itself. Major congressional review is expected in 1978 and the Service is preparing to fully support its proposals at hearing and related briefings.

The following outputs can be quantified for existing and proposed Service lands:

Habitats Protected:

Existing	-	21.0 million acres
Proposed	-	31.6 million acres
Total	-	52.6 million acres

Annual Production:

Migratory Waterfowl	-	3,000,000
Other Migratory Bird	-	125,000,000
Caribou	-	30,000
Muskox	-	100

Alaska offers the rare opportunity to preserve for long range public benefits its unique wildlife habitats and species before man-made changes significantly affect them. Recreational use will be assured for the future and existing subsistence use can be continued.

Migratory bird resources of Alaska benefit the public over much of the North American Continent. Birds which nest and rear young in Alaska, migrate to other parts of the U.S. and Western Hemisphere, will be protected so that existing as well as future benefits will be preserved.

Moose

C. Animal Damage Control
Fiscal year 1977, $10,140,000; Fiscal year 1978, $11,240,000; increase of $1,100,000.

Major Program Changes

Animal Damage Control Operations	+$1,100,000; total $7,710,000; +0 positions; total 154 positions

Proposal. The Service will continue the accelerated effort for livestock protection in the 13 Western States in which it provides cooperatively funded direct mammal damage control assistance. In fiscal years 1976 and 1977 the increased livestock protection effort was funded by the United States Department of Agriculture under an interagency agreement at $1.4 million annually. The Service will continue the use of animal damage control specialists in problem areas of central California, continue the increased level of aerial hunting in the Great Basin, Rocky Mountain, and Great Plains areas, and maintain present manpower in Arizona, New Mexico, Oklahoma, and Texas. ($1,100,000; 0 positions)

Justification. Federal action banning the use of certain toxicants to protect livestock from predation requires the use of alternate damage control methods which are more costly and more labor intensive. Although there is a recognized need for reducing predator damages to livestock, most of the States are not currently prepared to assume the responsibility of providing predator damage control assistance. Therefore, if Federal participation is reduced it will likely lead to "do-it-yourself" damage control, with potentially poorer protection of the livestock and more kills of non-target animals. This budget request will allow continuation of more rapid responses to requests for assistance, more preventive livestock protection actions, and increased damage control assistance to Indian tribes. It will also contribute to better utilization of the range for food and fiber production. Ranchers who experience high sheep losses to predators tend to convert to cattle, which are less vulnerable to predators, but less efficient in utilizing segments of the range because of rough topography and the available forage types. ($1,100,000; 0 positions)

Cost Factors. The proposed funding will be used to partially replace the support previously provided by the Department of Agriculture. The funds will be used to maintain, as far as possible, the previously increased use of aerial hunting ($650,000), to maintain the previously increased number of animal damage control field personnel ($400,000), and to purchase equipment needed to support these efforts ($50,000).

Program Description - Animal Damage Control

The goal of this program is to provide, or assist in providing, selective professional wildlife damage control in order to protect man and his interests and to protect wildlife populations from the impacts of indiscriminant wildlife damage control. The objectives of the program are to: (1) protect the public from wildlife-borne diseases and wildlife-caused safety hazards (e.g., reduce bird-aircraft strike potentials), (2) protect

livestock from wildlife-caused depredations and wildlife-borne diseases, (3) protect agricultural crops from wildlife-caused depredations, (4) protect forest and range resources from wildlife-caused damages (e.g., reduce rodent damage to reforestation and range improvement projects), (5) protect residential/industrial facilities from wildlife-caused damages, and (6) protect vulnerable wildlife populations limited by excessive predation or interspecific competition.

(1) Animal Damage Control Research — total $3,530,000; total 106 positions

Through this subprogram the Service conducts research in: (1) evaluation of wildlife-caused damages and hazards, (2) development of more humane, selective, effective, and safe damage control techniques, and (3) monitoring of populations of non-target and target species. As part of the effort to develop new techniques the Service carries out studies on the physiology and ecology of target species in order to better understand and manage them. Approximately $1.9 million will be expended on mammal damage control research and $1.6 million on bird damage control research in fiscal year 1977. The major research thrusts are to determine the extent of problems caused by predatory mammals and depredations caused by blackbirds and starlings and to develop or improve techniques to alleviate such problems.

(2) Animal Damage Control Operations — +$1,100,000; total $7,710,000; +0 positions; total 154 positions

Through this subprogram the Service provides both direct and extension damage control assistance to State, county, and local governments, and to private individuals and organizations to assure minimum impact of damage control operations on wildlife populations; assists in the protection of agricultural crops and personal property from depredating wildlife; and protects human health and welfare. The extension or educational approach to resolve man-wildlife conflicts is used whenever possible. Before taking measures to resolve such conflicts the biological, social, and economic factors involved are analyzed, with equal attention being given to protecting the natural environment and abating wildlife-caused damages.

Operations are conducted in accordance with cooperative agreements between the Service and the States, and exclude those species that are harvested or otherwise managed by the State fish and game departments. However, upon special request and in agreement with the State fish and game departments, the Service may control damage caused by an individual or small group of species that are otherwise managed by the State.

In providing animal damage control assistance, cooperation with commercial pest control firms, the Department of Agriculture's Extension Service, State health departments, and other government agencies is carried out. The Service avoids direct competition with commercial pest control firms where they can provide comparable, competent service, and where wildlife values are likely to be adequately protected by such operators.

The major mammal damage control thrust is to provide direct assistance to protect livestock in the western United States from predators. Over 90% of the Service appropriated funds used for mammal damage control are expended for this purpose.

Since mammals are resident wildlife, the Service, under the Act of March 2, 1931 (7 U.S. 426-426b), is encouraging those western States in which the Service conducts a direct mammal damage control program to assume the role now performed by the Federal government in providing direct mammal damage control. As an incentive, the States are offered contract funds to take on the responsibility; this alternative has been pursued since 1974.

As of January 1977, only two of the 15 eligible Western States had taken on the Service's direct mammal damage control responsibilities through contract funding agreements. A total of over $500,000 in contract funding is being provided to two States, Washington and South Dakota, for State-conducted direct mammal damage control programs.

The major bird damage control thrusts of the Service are to provide direct and extension assistance to protect agricultural crops and to protect human health and safety. Approximately 50% and 25% respectively of the Service appropriated funds used for bird damage control are expended for these purposes, and involvement in resolving blackbird/starling winter roost related problems has increased over the past few years. The remaining 25% is used to resolve other bird related problems such as depredations at fish hatcheries by fish-eating birds.

Animal Damage Control Program Results	FY 1977 Estimate	FY 1978 Estimate
Direct mammal damage control projects	54,000	52,000
Extension mammal damage control projects	29,000	29,000
Direct bird damage control projects	1,800	1,800
Extension bird damage control projects	6,100	6,100
Management surveys	360	360
Special studies	50	50
Field evaluations of potential damage control tools	20	20
Applications for registration of damage control tools submitted to EPA	5	5

Western livestock producers were generally satisfied with the fiscal year 1976 Service livestock protection effort. The $1.4 million in Department of Agriculture funds provided for increased livestock protection through a higher level of aerial hunting, and increased manpower and equipment which allowed the Service to respond more rapidly to requests for animal damage control assistance and to provide assistance in areas previously unserviceable. As part of the program the Service increased the use of the M-44 cyanide device to control depredations.

Based on Service data, the Environmental Protection Agency has registered the use of methiocarb as a repellent to protect sprouting corn from birds.

Nationally, it is estimated that bird-caused corn sprout losses are $6 million. Also based on Service data, the Environmental Protection Agency has experimentally registered the use of methiocarb to protect sweet and sour cherries from birds. In Michigan, the leading sour cherry producing State, it is estimated that bird-caused sour cherry losses range from $1.8 to $4.3 million.

An application was submitted to the Environmental Protection Agency for registration of mestranol as a repellent to protect Douglas-fir seeds from rodents. This use of mestranol has been developed as a replacement for the use of a environmentally contaminating chemical, endrin. An application was also submitted to the Environmental Protection Agency for registration of the toxicant zinc phosphide for controling California ground squirrels on rangelands. Based on Service data, the Environmental Protection Agency registered the use of zinc phosphide to control white-tailed prairie dogs. These registrations will make it possible to replace the more hazardous toxicants, strychnine and 1080, for controling California ground squirrels and white-tailed prairie dogs and thereby reduce the risks to people and non-target animals.

The Service completed an Environmental Impact Statement on the use of the wetting agent PA-14 to control roosting blackbirds and starlings. The tool is now available to help resolve conflicts between these species and man in certain situations.

D. Interpretation and Recreation

Fiscal Year 1977, $7,543,000; Fiscal Year 1978, $10,643,000; increase of $3,100,000.

Major Program Changes

(1) Conservation and Environmental Education-Wildlife Refuges	+$620,000; total $2,128,000 +24 positions; total 84 positions

Proposal. Increases for Environmental Education involves improved maintenance and renovation of existing facilities to better serve educational needs and improve program direction and services.

(a) Bicentennial Heritage Program. Funds will be allocated to better balance work needed to be done within the National Wildlife Refuge System and the money and manpower available to do it. For proposal details see Migratory Bird Program, page 39 , ($320,000; +24 positions).

(b) Cyclical Maintenance. Funds will be used to accomplish cyclical maintenance work on wildlife refuges. For proposal details see Migratory Bird Program, page 39 , ($320,000 +0 positions).

Justification. Protection of the Nation's historic, cultural and designated natural areas and objects on Service lands will be improved through increased public use control and stabilization and preservation efforts. General types of projects will include painting and other minor rehabilitation on properties which are listed on the National Register of Historic Places, survey of additional properties, and increased seasonal patrol to prevent vandalism.

(a) Bicentennial Heritage Program. There is an acute need to repair deteriorated refuge facilities and properly protect and manage units recently added to the system. Funds and positions will permit better management of refuges for the Interpretation and Recreation Program. For complete justification see Migratory Bird Program, page 40.

(b) Cyclical Maintenance. A maintenance program will be initiated which will increase the efficiency and effectiveness of Service facilities. For complete justification statement see Migratory Bird Program, page 40.

Cost Factors.

(a) Bicentennial Heritage Program. Costs will consist of salaries and benefits for 24 permanent employees ($320,000).

(b) Cyclical Maintenance. Costs will consist of salaries and benefits for temporary employees; ($150,000), supplies and materials; ($110,000), equipment; ($40,000).

(2) Interpretation and Program Information	+$1,205,000; total $3,939,000 +37 positions; total 117 positions

Proposal. Most of the changes in the interpretation activities (+$1,205,000 and +37 positions) will increase the operational funding and provide for facility rehabilitation on field stations within the National Wildlife Refuge System. Thirty thousand dollars will be expended at the National Aquarium in Washington, D.C. to correct safety and maintenance problems in FY 1978. After 1978 this $30,000 will be devoted to rehabilitation projects in the National Wildlife Refuge System.

(a) Bicentennial Land Heritage Act. The Bicentennial Land Herigate funds will be distributed throughout the sub-programs of the Interpretation and Recreation Program. See proposal on page 39 , under Migratory Bird Program ($680,000; +37 positions).

(b) Cyclical Maintenance. Cyclical maintenance funds will be distributed throughout the sub-program of the Interpretation and Recreation Program. See proposal on page 39 , under Migratory Bird Program ($525,000; and 0 positions).

Justification. A public conservation ethic will be fostered through Service land based interpretive and information programs to help visitors understand the relationship of fish and wildlife to their habitats, the role of man in his environment and the impacts of alternative land and water allocation decisions upon fish and wildlife. Increases for interpretation are primarily directed toward improving the maintenance of existing facilities and quality of the public's interpretive experience. Efforts will be made to improve trails, exhibits, signing, planning and visitor centers. Modest interpretive programs will be started on new refuges Program information increases will produce better quality, more relevant information to better meet current public needs and also help direct and control public use on Service lands. This will be accomplished through improved signing, audio-visual presentations, publications and leaflets.

(a) Bicentennial Heritage Program. For complete justification see Migratory Bird Program, page 40.

(b) Cyclical Maintenance. For complete justification see Migratory Bird Program, page 40.

Cost Factors.

(a) Bicentennial Heritage Program. Costs will consist of salaries and benefits for 37 permanent employees ($680,000).

(b) Cyclical Maintenance. Costs will consist of salaries and benefits for temporary employees ($30,000), supplies and materials; ($150,000), equipment ($75,000).

(3) Recreation on Wildlife Refuges — +$1,275,000; total $4,576,000
+29 positions; total 99 positions

Proposal. Increases for recreation are primarily directed at controlling public use, improving operations and facility maintenance, and improving the quality of the public recreational experiences on Service lands.

(a) Bicentennial Land Heritage Act. The Bicentennial Land Heritage fund will be distributed throughout the sub-programs of the Interpretation and Recreation Program; see page 39 under Migratory Bird Program (+$600,000; 29 positions).

(b) Cyclical Maintenance. Cyclical maintenance funds will be distributed throughout the sub-program of the Interpretation and Recreation Program. See proposal on page 39 , under Migratory Bird Program ($675,000 and 0 positions).

Justification. Increases will satisfy only a small part of the public need for high quality, safe, fish and wildlife oriented recreational activities which are inherently available on Service lands. Critically substandard facilities will be upgraded, resource degradation caused by public over

use will be reduced, and program improvements to change or redirect public use patterns to those more compatible with Service objectives will be accomplished. Signing, sanitary facilities, tour routes, and general public use control will be improved.

(a) Bicentennial Heritage Program. For complete justification see Migratory Bird Program, page 40.

(b) Cyclical Maintenance. For complete justification see Migratory Bird program, page 40.

Cost Factors.
(a) Bicentennial Heritage Program. Costs will consist of salaries and benefits for 29 permanent employees ($600,000).

(b) Cyclical Maintenance. Costs will consist of salaries and benefits for temporary employees ($325,000), supplies and materials; ($290,000), equipment; ($60,000).

Program Description - Interpretation and Recreation Program

(1) Conservation and Environmental Education - Wildlife Refuges	+$620,000; total $2,128,000 +24 positions; total 84 positions

Conservation and Environmental Education is designed to encourage environmental understanding by making Service lands available for educational and scientific purposes; to protect the Nation's historic, cultural and natural areas; and to host youth programs on Service lands. These goals are achieved by:

(1) 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.
(2) By making Service lands available to others as outdoor laboratories.
(3) By preserving outstanding ecological, natural and scenic areas on Service lands through the protection of wilderness areas, natural landmarks, scenic rivers, etc.
(4) By preserving our historic and cultural environment through the protection of historic sites and historic landmarks on Service lands.
(5) By providing financial assistance to qualified high school students through conservation oriented work learning opportunities in Youth Conservation Corps.
(6) By providing on-the-job training in work skills for disadvantaged youth in the Job Corps Program.

Environmental Education benefits are long term, enabling the students to better understand and appreciate man's relationship to his environment and the need for land use allocation trade-offs. Environmental education is measured in hours of direct participation. It is estimated that +50,000 activity hours will be generated through program improvement. Based upon previous growth rates, a normal increase of +50,000 activity hours is also estimated. Total environmental education accomplishments are estimated as follows:

	FY 1977 Estimate	FY 1978 Estimate
Environmental Education Activity Hours of participation	600,000	700,000

Dedicated Areas afford short term public benefits of enjoyment and scientific utilization. In addition long term benefits of respect, knowledge and appreciation of our Nation's natural, historic and cultural heritage will occur. Dedicated areas are measured in numbers of areas protected. It is

83-561 O - 77 - 25

estimated that +40 areas will be protected through program improvement. Total dedicated areas are estimated as follows:

	FY 1977 Estimate	FY 1978 Estimate
Dedicated Areas	320	360

Studies by others utilizing Service lands as outdoor laboratories provide both short and long term benefits by fostering increases in this Nation's store of scientific knowledge. As the Service is largely a passive host, no program increases are planned. Based on previous growth rates a normal increase of +20 studies is estimated as follows:

	FY 1977 Estimate	FY 1978 Estimate
Studies by Others	500	520

Youth Programs hosted on Service lands provide environmental learning and social work-learning benefits to the enrollees as well as providing useful work accomplishments. Youth programs are conducted as provided for by Congress and in accordance with Departmental plans. No FY 1978 increases are included. The Youth Program is measured in terms of numbers of camps and number of enrollees. Estimated results are as follows:

Youth Corps	FY 1977 Estimate	FY 1978 Estimate
Camps	102	102
Enrollees	2203	2203

Job Corps	FY 1977 Estimate	FY 1978 Estimate
Camps	2	2
Enrollees	336	336

(2) Interpretation and Program Information	+$1,205,000; total $3,939,000 +37 positions; total 117 positions

The purpose of interpretation on Service lands is to provide a pleasurable but educational experience through which the concept and understanding of fish and wildlife and wildlands ecology and man's role in his environment are conveyed to the general public. The potential effects of alternative land uses as well as other decisions which affect environmental quality are communicated to citizens. This, in turn, contributes significantly to their understanding of the Nation's natural resources, especially fish and wildlife. Wildlife drives, trails, conducted and non-conducted tours, slide and film presentations, aquariums, (including the National Aquarium in Washington, D.C.) exhibits and demonstrations, are the primary means for creating this type of public awareness.

Various forms of information media are used to create public awareness and sensitivity to the multitude of actions impacting on the natural environment. These media include news releases; leaflets and publications; the production and distribution of films; film clips and slide tape programs; and special appearances before public and private groups and organizations.

Public benefits are short term public enjoyment and long term as reflected by public responses to environmental issues. It is estimated that +500,000 activity hours will be generated through program improvement. Based upon previous growth rates, a normal increase of +500,000 activity hours is also estimated. Total public use in interpretation is estimated as follows:

Interpretation Hours of Activity	FY 1977 Estimate	FY 1978 Estimate
National Wildlife Refuges	5,000,000	6,000,000
Fish Hatcheries	1,885,000	2,000,000

(3) Recreation on Wildlife Refuges +$1,275,000; total $4,576,000
+29 positions; total 99 positions

The Service provides for the public benefit high quality fish and wildlife recreational activities on Service lands that are compatible with fish and wildlife programs. These activities include such things as fishing, hunting and wildlife observation. Recreational uses, not fish and wildlife oriented, are provided only when these latter uses are adequately funded and do not conflict with an area's primary objectives. These activities include such things as camping, picnicking, boating, hiking, and other related uses not requiring the presence of fish and wildlife.

Most of the recreational benefits provided are short term. These are gained by making available to the public, leisure time opportunities for participating in wholesome outdoor recreational activities. Long term benefits are derived by demonstrating some of the reasons why natural resource lands should be preserved; i.e., for public recreational uses which are inherent to the preservation of fish and wildlife resources and their associated land base. It is estimated that 800,000 activity hours will be generated through program improvement. Based on pervious growth rates, a normal increase of 4,000,000 activity hours is also estimated. Total recreational use is estimated as follows:

Hours of Recreation Participation	FY 1977 Estimate	FY 1978 Estimate
National Wildlife Refuges	76,350,000	81,150,000
National Fish Hatcheries	415,000	420,000

Scissortail Flycatcher

3. Fishery Resources: Fiscal year 1977, $27,955,000; Fiscal year 1978, $29,396,000; increase of $1,441,000. The increase consists of:

Increase (+) or Decrease (-)

	Amount	Position	Total Program	Total Positions	Explanation
(A)	-$ 704,000	+ 2	7,404,000	186	Coastal Anadromous Fisheries - Research, Indian fishing rights, Columbia River, Hatchery operations and cyclical maintenance.
(B)	+ 506,000	+ 4	3,793,000	121	Great Lakes - Research fish culture and cyclical maintenance
(C)	+ 1,564,000	+ 4	18,124,000	541	Inland Fisheries and Reserviors - Research, fish culture and cyclical maintenance
(D)	+ 75,000	---	75,000	---	GSA Space Costs
	+$1,441,000	+10	$29,396,000	848	

Program Synopsis

The goal of the Fishery Resources budget activity is to improve the quality, abundance, productivity, and utilization of the Nation's fishery resources for the benefit of people.

Objectives are to:

(1) Provide assistance to, and cooperate with, international, Federal, State, public and private agencies in the development and protection of fishes and their habitats and to rear and stock fishes to assist in restoring fisheries.

(2) Conduct fish, fishery, and ecological research required for the scientific management of fisheries.

(3) Provide advanced training in fishery research and management including fish culture methods, nutrition, and fish disease control.

Fishery and aquatic research are carried out at 13 laboratories and 14 biological stations to improve fish productivity; increase efficiency of hatchery fish production, determine effects of environmental contaminants on fishes, and develop methods of controlling undesirable fishes. Five development centers and two training schools are operated to improve fish culture technology and methodology. Technical assistance is provided by management biologists to Indian tribes and to Federal, State, and other landowners in the management of fisheries. Fish are produced at 89 national fish hatcheries and one spawning channel.

Major changes in the Fishery Resources Activity include a reduction of $2,057,000 of Judge Boldt's Decision funding involving matters associated with Indian fishing rights in northwestern United States. Increases include $455,000 for Research, $63,000 for Fishery Assistance, $905,000 for fish hatcheries. A total of $2,000,000 is proposed for cyclical maintenance and repair of fish production, research, and other facilities.

A. Coastal Anadromous Fisheries

Fiscal year 1977, $8,108,000; Fiscal year 1978, $7,404,000; decrease of $704,000.

Major Program Changes

(1) Anadromous Fish Research, +$109,000; total $2,004,000
+0 positions; total 37 positions

Proposal.

It is proposed to initiate the following additional studies on anadromous salmonids: (a) incidence; distribution, and levels of disease in free ranging populations; (b) status of fish adaptation and survival due to environmental changes caused by man (e.g., possible oil spills from Alaska pipeline); (c) determine genetic markers useful in developing hatchery-reared fish of desired characteristics needed to survive in the natural environment; (d) develop new diet formulations based on basic nutritional needs of hatchery-reared striped bass.

Justification.

The Fish and Wildlife Service, in cooperation with State agencies, conducts fish hatchery production and stocking programs to maintain the valuable salmon and striped bass fisheries. Fish reared in hatcheries, because of their imposed crowded state, are extremely vulnerable to disease outbreaks and must subsist on artificial dry-formula diets. The proposed genetic, disease and nutrition studies are aimed at producing a more robust hatchery fish with increased survival potential when released in the wild. One part-time position will be located at the Southeastern Fish Cultural Lab and one at the Western Fish Disease Lab.

Cost Factors.

Manpower requirements will met by use of part-time positions and contractual services. Cost is based on the equivalent of three full-time positions at $25,000 each, travel at $15,000, lab overhead at $10,000 ($5,000 at the Southeast Fish Cultural Lab and $5,000 at the Western Fish Disease Lab) and other services at $9,000; total of $109,000.

(2) Anadromous Fish Assistance -$1,994,000, total $504,000
+0 positions; total 22 positions

Proposal. (a) Indian Fishing Rights. The Judge Boldt decision (U.S. vs. Washington Civil No. 9213 - February 12, 1974) asserted that under existing treaty rights Indian fishermen must have opportunity to take 50% of the total harvestable population of salmon and steelhead trout available on traditional off-reservation fishing areas historically fished by Indians in Northwest Washington. Accordingly, a system needed to be prepared and implemented to provide for an equitable distribution of these resources.

Existing data were not adequate to permit the allocation of the fishery resource as Judge Boldt directed and the collection of data and development of a system to carry out his decision has become a formidable task.

The court decision could not be anticipated by the State of Washington; therefore the State was not prepared to accept the financial burden created by the decision and needed additional financial assistance to carry out the mandate. The congress included additional funds ($1,985,000 in FY 1976 and $2,057,000 in FY 1977) in the Service's budget to be used entirely by the State fishery agencies for studies designed to implement the Federal Court decision. It is proposed to discontinue this funding (-$2,057,000) for FY 1978. The Service has no plans to establish a new source of financial assistance to the States, as existing programs will continue to be funded. Fish and Wildlife Service personnel provide coordination between the State fishery departments and Indian groups to devise a plan of management and research for case area anadromous fisheries.

The amount of $690,000 provided initially in FY 1975 will be used for fishery assistance and contract work in Washington. In addition, we will continue to assist the State by providing grant-in-aid funding. (-$2,057,000)

(b) Columbia River Initiative. As part of a Columbia Basin work, a study of the effects of water development projects on fishery resources would evaluate the adequacy of mitigation measures designed to offset losses of natural fish populations due to construction of federal water development projects in the Columbia River Basin. (+$63,000)

Justification (a) Indian Fishing Rights. The Fish and Wildlife Service has no plans to establish a new State financial assistance program outside of existing authorities to cover special situations, such as the Indian treaty fishing rights in the Northwest.

(b) Columbia River Initiative. An evaluation of major federal water development projects in the Columbia River Basin during and after construction is needed to determine the effects of construction and land use changes on anadromous fishery resources. This evaluation would show how fish mitigation and enhancement measures were implemented. Also included is an evaluation of past Fish and Wildlife Service recommendations. This information would be used in making future recommendations to construction agencies.

Cost Factors

Manpower requirements will be met by part-time personnel and contractual services. Cost of the Columbia River Basin study is based on the equivalent of one Fisheries Biologist salary, benefits, travel, supplies and equipment costs of $63,000.

(3)	Anadromous Fish Hatcheries; operations, rehabilitation, and cyclical maintenance.	+$1,181,000, total $4,896,000, 2 positions; total 127 positions

Proposal. (a) Green Lake and White River Hatcheries. It is proposed that the funds increase will be used to operate the new Green Lake hatchery at full capacity for the first time to produce 400,000 2 yr. smolts, and to start operation at the new White River hatchery, Vermont. (+$420,000; +2 positions).

(b) Fish Hatchery Rehabilitation. It is proposed that the funds increase be used for high priority rehabilitation of six hatcheries in five states. (+$140,000; +0 positions).

(c) Cyclical Maintenance and Repair. An amount of $621,000 is requested for use in accomplishing maintenance and repair work at 24 hatcheries producing fish for the anadromous program. This estimate is based on the accepted premise that a minimum of 3 percent of the replacement cost of the facilities should be provided annually for cyclical maintenance and repair. The funds would be used for projects costing not more than $60,000. (+$612,000, +0 positions).

Justification. (a) Green Lake and White River Hatcheries. Restoration of Atlantic salmon in New England is a top priority for the Service's Coastal Anadromous Fish Program. The increase will permit a production increase of 800,000 1-year fish (10,000 lbs.) and 210,000 2-year old smolts (35,000 lbs.). Total production for FY 1978 would then be 400,000 two-year old smolts. Without the increase the scheduled 210,000 fish would have to be released prematurely, with a consequent high mortality expected. The increased production would be expected to augment the 1980 adult salmon run by up to 2,100 fish.

The success of the Service's Atlantic salmon restoration efforts on the Connecticut and Merrimack Rivers hinges largely on the expected production from the White River National Fish Hatchery. These two rivers were once famous for their Atlantic salmon runs. It is hoped that salmon runs can be established once again.

(b) Fish Hatchery Rehabilitation. The accomplishment of this work will prevent the loss of fish production at Coleman, Entiat and Quilcene National Fish Hatcheries. Improvements will permit an increase in efficiency, decreased operation costs and preclude eventual more costly repair to facilities listed below.

State	Hatchery	Description	Amount
CA	Coleman	Replace broken and leaking raceway floors in the 15'x150' production ponds.	$25,000
FL	Welaka	Replace valves on kettles, improve domestic water supply, repair retaining wall and resurface drives.	22,000
ME	Craig Brook	Replace heating boiler in hatchery building and rebuild brood holding pond.	7,000
NC	Edenton	Install auxiliary water supply pump for holding house and replace water supply pump for ponds.	11,000
WA	Entiat	Riprap river Bank to protect adult salmon holding pond.	25,000
WA	Quilcene	Replace primary water supply line.	50,000
		Total	$140,000

The Fish and Wildlife Service places high emphasis on the development, management and protection of interstate and international fisheries such as the anadromous species, and it is important that existing production capability be maintained to help offset increasing sport and commercial harvest and declining habitat quality. Rehabilitation and maintenance of fish hatcheries has been curtailed during recent years in order to meet escalating fish production costs. Continued deferral of needed rehabilitation and maintenance work will result in costlier repair, or may shorten the useful life expectancy of facilities required to maintain needed production capability.

In fiscal year 1978, an estimated 50.0 million fish (weighing in excess of 1.2 million pounds) will be produced from National Fish Hatcheries for this program. Some of the most critical problems in the Coastal Anadromous Program are in the Northwest. These problems stem from a decline of salmon and steelhead runs, particularly in the Columbia River. The funds increase for the Coleman hatchery will help meet current production levels (430,000 pounds of fish annually, primarily for the Coastal Anadromous Program) necessary for the maintenance of valuable anadromous runs threatened by the loss of natural spawning areas following construction of Shasta and Keswick Dams. Funds are also needed at the Entiat and Quilcene hatcheries to maintain current production (121,000 pounds of fish annually for the Columbia River Basin) which help to support the Columbia River Basin management and restoration initiative. An increase of $33,000 is required for the Edenton and Welaka hatcheries which play a significant role in producing striped bass stocks for the Southeast. Currently striped bass stocks are approximately 50 percent below the 10 year average, presumably due to the effects of hurricanes such as "Amy" in 1975. The United States Federal participation in Atlantic salmon restoration began with establishment of the Craig Brook National Fish Hatchery, Maine. This station still makes the most contribution to this vital program because the new Green Lake hatchery is in limited production and the White River hatchery is under construction.

Benefits derived from this program include greater sport and commercial harvest of salmon, steelhead and other anadromous fish species. Fish production under this production from National Fish Hatcheries aids in offsetting spawning ground losses due to hydroelectric dams and other water resource developments.

(c) Cyclical Maintenance. The Fish and Wildlife Service requires cyclical maintenance and repair funds for fish facilities to help accomplish the goal of the Fishery Resources Activity, which is to assist in meeting the public demand for fishing while maintaining the Nation's fishes and their habitats at a level and in a condition that will assure the continued survival of these natural resources.

The Service has not been able to maintain the level of facility cyclical maintenance and repair necessary to adequately protect the real investment and useful life expectancy of fishery resource facilities. The nominal base once utilized for this purpose has been largely diverted to other facets of fishery research and hatchery operations to help defray escalated costs of utilities, supplies, fish feed, and other commodities essential in meeting Service objectives. Prolonged deferment of required cyclical maintenance and repair of fishery resource facilities will result in an increased backlog of this work and an escalation of life cycle costs. ($621,000)

The funds increase requested would be used in the amounts indicated, at the hatcheries, as follows:

State	Hatchery	Amount
CA	Coleman	$ 86,900
CA	Tehama-Colusa	42,400
FL	Welaka	7,600
ME	Craig Brook	35,300
ME	Green Lake	40,200
MA	Berkshire	33,500
MA	North Attleboro	17,100
MI	Meridian	5,400
NH	Berlin	3,300
NC	Edenton	5,800
NC	McKinney Lake	3,300
NC	Pisgah Forest	1,100
OR	Eagle Creek	22,800
SC	Cheraw	2,200
SC	Orangeburg	6,500
VT	Pittsford	16,800
WA	Abernathy	23,900
WA	Carson	13,000
WA	Entiat	29,300
WA	Leavenworth	44,600
WA	Quilcene	10,800
WA	Quinault	19,000
WA	Winthrop	77,800
WA	Yakima	72,400
		$621,000

Cost Factors. (a) Green Lake and White River Hatcheries. Cost is based on two permanent positions at an annual salary of $18,000 each, Total $36,000; purchase of fish food and other operational costs for utilities, and supplies, costing $384,000.

(b) Fish Hatchery Rehabilitation. Rehabilitation of fish production facilities at six hatcheries - lands and structures, $140,000. Costs estimates were determined by useing current Engineering Cost Indices.

(c) Cyclical Maintenance and Repair. Cost estimates of $621,000 were determined by using current Engineering Costs Indices.

Program Description - Coastal Anadromous Fish Program

Anadromous fish throughout the Nation have suffered severe setbacks as a result of industrialization and technological progress. Streams and rivers, once abundant with salmon, steelhead, striped bass, shad and others, have been dammed, polluted, and in other ways abused. At the same time this country's, and world's population growth has placed heavy demands on anadromous fish resources resulting in overexploitation of some species in some areas.

The purpose of the coastal anadromous fisheries program is to improve the quality, abundance and utilization of the fishery resources of the coastal areas, including restoration of Atlantic salmon to the northeastern United States. This program is carried out in 24 states. Activities include fish production and stocking, fish disease and nutrition research, grants-in-aid to the States and technical assistance.

A total of 28 Service operated fish hatcheries, including some salmonid hatcheries funded by other Federal agencies, produce over 70 million fish weighing about two million pounds annually for the Coastal Anadromous Program. The hatchery production was authorized to mitigate for spawning and nursery ground losses due to hydroelectric dams and other water resource developments.

Principal species in the program are Atlantic, chinook and coho salmon, steelhead trout, shad, striped bass, smelt and sturgeon.

(1) Anadromous Fish Research +$109,000; total $2,004,000
+0 positions; total 37 positions

Research is conducted on fish nutrition, disease, genetics and environmental problems. Eight laboratories and four field stations are involved in the anadromous fish program.

Outputs of research are measured in terms of numbers of research units completed:

	FY 1977 Estimate	FY 1978 Estimate
Research Work Units* Completed:	25	27

Benefits of research in the program are new or improved fish diets, fish disease control methods, new or improve strains of anadromous fishes and biological information leading to restoration and enhancement of anadromous fisheries.

A combination of six feeding regimens were tested to develop a feed for striped bass, during the period from hatching to stocking as two inch fingerlings, at cost of five cents per fish. Under present rearing practices mortalities before stocking commonly reach 70 percent due to undefined nutritional requirements of the fingerlings. Future production of striped bass, larger than the present two-inch stock size is dependent on reducing pre-stocking mortality as a result of inadequate food.

*A work unit is an identifiable discrete research effort within a project which, while encompassing a specific time frame, is undertaken for the purpose of accomplishing a project objective. Completion of more than one work unit normally is required to achieve a project objective. Each work unit has a study plan which specifically details the research design (who, what, when, how) of the study.

Economical sources of plant protein (i.e. soybean meal) have been developed for use in fish diets to produce feeds which fully meet essential nutritional requirements of hatchery salmonids.

A bacterial disease of western trout has recently been diagnosed in the eastern U.S. and Canada. Research in FY 1976 has shown this bacterium will kill young Atlantic salmon and has provided advanced warning of potentially serious problem to our Atlantic salmon hatcheries.

(2) Anadromous Fishery Assistance -$1,994,000; total $504,000
+0 position, total 22 positions

Fishery management assistance is provided to Federal and State agencies, to Indian Tribes and to Alaska Natives. Professional assistance is provided to the Courts and Justice Department for anadromous fishery management problems associated with Indian treaty fishing rights. Fishery assistance is made available by direct assignment of professional personnel, through contracting, and by use of extension services, including training and short courses.

	FY 1977 Estimate	FY 1978 Estimate
Indian Projects	26	30
Management Investigations	50	60
Cooperative Management	6	8

Fishery Assistance benefits include improved sport and commerical fisheries for salmon and other anadromous fishes resulting in social and economic benefits. Native Americans are assisted in developing professional expertise which will eventually enable them to achieve self-regulatory authority for their share of anadromous fisheries as determined by Federal Courts. Similar assistance is provided in Alaska and California. Studies, direct and through contracts, are helping to implement Judge Boldt's decision on fishing rights. Private and State anadromous fishery managers are aided by providing them with technical knowledge and advice.

Coordination efforts in U.S. vs. Washington have resulted in the preparation of a Unified Fishery Plan that represents the first concrete attempt to work up a cooperative plan by those involved in the Boldt decision: Fish and Wildlife Service, Washington Departments of Fishery and Game and the Northwest Indian Fishery Commission.

For the third year in a row adult Atlantic salmon were collected in the Connecticut River and identified as hatchery stocked smolts. These adults are from a sub-minimal stocking effort and indicate a high restoration success probability when total numbers of salmon smolts are released.

(3) Anadromous Fish Hatcheries +$1,181,000; total $4,896,000
+2 positions, total 127 positions

Through the National Fish Hatchery System, the Service provides juvenile fishes to supplement natural reproduction and achieve the objectives of the Anadromous Fisheries Program. Principal species produced are coho, chinook and Atlantic salmon, steelhead trout and striped bass. Fish production is carried on at 28 Service-operated hatcheries, including some funded by the Corps of Engineers and the National Marine Fisheries Service.

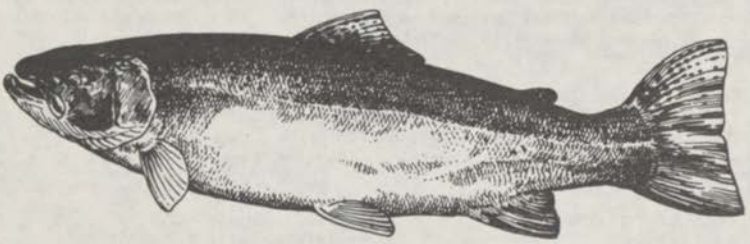
Outputs of the subprogram are as follows:

	FY 1977 Estimate	FY 1978 Estimate
Production, numbers	46,315,000	50,275,000
Production, pounds	1,116,100	1,200,600
Angler days	5,030,000	5,470,000

Benefits derived from this program include greater sport and commercial harvests of anadromous fishes. Fish production from National Fish Hatcheries under this program aids in mitigating spawning ground losses due to hydroelectric dams and other water resource developments. Restoration of Atlantic salmon in New England will not only provide economic restoration benefits, but will also restore an important facet of our National heritage.

Although station construction has not yet been completed, the new Green Lake National Fish Hatchery, Maine, completed its first full year of operation in fiscal year 1975 with initial fish production of Atlantic salmon smolts weighing 4,178 lbs. All functional fish production facilities are now being utilized, and knowledge being gained from ongoing "shake down" type operations will prove valuable for application during full-scale operation once hatchery construction is completed. In fiscal year 1977, it is estimated that the station will produce 600,000 Atlantic salmon smolts weighing 45,000 lbs. which will be a significant increase for the Atlantic Salmon Restoration Program.

The first adult steelhead trout return was recently realized at the Quinault, Washington National Fish Hatchery. The station's steelhead program was started with 30,000 eggs and the resulting three year old adult returns enable a spawning take exceeding 200,000 eggs. This, plus the additional egg yield anticipated upon return of the four year old adults, should prove a significant stride towards the establishment of a sizeable steelhead brood run needed to help meet ever increasing fishing pressures.



Chinook Salmon

B. Great Lakes Fisheries

Fiscal year 1977, $3,287,000; Fiscal year year 1978, $3,793,000; increase of $506,000.

Major Program Changes

(1) Great Lakes Research; operations and cyclical maintenance	+ $246,000; total $2,809,000 + 3 positions, total 88 positions

Proposal. (a) Research efforts will be extended to Lake Ontario by establishing a biological station and vessel base at Oswego, New York; obtain scientific data required for management of Lake Ontario fisheries; determine the effects of environmental contaminants, such as PCB's, DDT, dieldrin, mercury, and other heavy metals on the fisheries; and evaluate the success of the sea lamprey control and lake trout stocking subprograms. (+ $146,000 and +3 positions).

(b) Cyclical maintenance will be carried out at three research laboratories and on four ships. Items include repair of plumbing and wet lab facilities, improvement of a parking lot, and construction of sewage and lab waste water treatment systems. Routine repairs and minor modifications would be made on our research vessels. (+ $100,000, no positions).

Justification. (a) Major components of the Great Lakes Fisheries program are research and evaluation, sea lamprey control and fish stocking. Sea lamprey control was extended to Lake Ontario in 1971 and a small lake trout stocking program began in 1975. Based on water quality and forage base, Lake Ontario has a high potential for fish production. Current production is improving, but remains low. With adequate research, sea lamprey control, and salmonid stocking, this high potential should be realized.

Our current research program is confined to Lakes Erie, Huron, Michigan, and Superior. Work is carried out at one laboratory and three biological stations. There is one research ship for each of the four lakes. A new ship will be completed in FY 1977.

(b) Research has never established base funding for routine cyclical maintenance. As a result of increased operations and overhead costs, some routine maintenance was postponed. This base will be used to carry out preventative maintenance and save costs for major repairs. It will also enable the Service to modernize waste treatment facilities to meet new Federal and State criteria.

Cost Factors. (a) Salaries and benefits for three permanent positions (fishery biologist, ship captain, engineer) and three-part time positions (secretary, technician, deck hand) ($90,000); lab rent and utilities ($24,000); vessel operation and maintenance ($12,000); lab equipment and operations ($20,000).

(b) Repairs of plumbing and wet lab facilities at the Great Lakes Fishery Laboratory, Ann Arbor, Michigan, ($21,000); installation of a new domestic sewage system ($35,000); and a waste treatment facility ($30,000); at the Hammond Bay Biological Station, Michigan; repair of parking lot at the Fish Control Laboratory, Warm Springs, Georgia, ($6,000); and routine maintenance and minor modification of research ships ($8,000).

(2) Great Lakes Fish Hatcheries; + $260,000; total $984,000
operations and cyclical maintenance + 1 position, total 33 positions

Proposal. (a) Increased funding would provide 0.8 million hatchery lake trout for stocking Lake Ontario. This would require increasing production at the Jordan River National Fish Hatchery in Michigan and reaching design capacity at the new Allegheny National Fish Hatchery in Northwestern Pennsylvania. (+ $160,000 and +1 position).

(b) Cyclical maintenance on buildings, raceways, water supply systems, and vehicles would be carried out at five National Fish Hatcheries. (+ $100,000, no positions).

Justification. (a) One of the major objectives of the Great Lakes Fisheries Program is to establish self-sustaining populations of lake trout in Lakes Huron, Michigan, Ontario, and Superior. The objective originated with the international Great Lakes Fishery Commission in 1954. The sea lamprey had wiped out the valuable lake trout populations in Lakes Huron and Michigan. Only small remnant populations remained in Lake Superior. The Commission's plan was to reduce and control the sea lampreys and then stock millions of hatchery trout. Great Lakes Fishery Commission biologists estimated that 6.4 million hatchery lake trout are required annually to establish populations in Lakes Huron, Michigan, and Superior. Consequently, current production of 4.6 million trout is less than that required for the Upper Lakes where excellent sport fisheries are established. However, limited success in establishing self-sustaining populations has been achieved only in Lake Superior. About 0.8 million lake trout are needed annually for initiating a fishery in Lake Ontario. It is estimated that this stocking program will provide 440,000 angler-days annually valued at nearly $4 million.

(b) The Division of Fish Hatcheries maintains a base funding for cyclical maintenance. In 1966, the base was over $740,000. In order to maintain production, these funds were gradually used to meet higher costs for fish food, utilities, and fish distribution. By 1975, only $157,000 was left for rehabilitation and maintenance of the entire National Fish Hatchery System. This increased funding would be used to provide safe working conditions and improve hatchery efficiency.

Cost Factors. (a) Salaries and benefits for one permanent position (hatcheryman) and two part-time positions (hatchery laborers) ($40,000); hatchery operations (lake trout eggs, feed, marking, and distribution) ($80,000); utilities (pumps) ($30,000); training ($10,000).

(b) Maintenance of buildings and production facilities at the Jordan River National Fish Hatchery ($46,000), and Pendills Creek and Hiawatha Hatcheries ($30,000), Michigan; repair and maintenance of the water supply well at the New London, Minnesota, Hatchery ($10,000); and maintenance of the well and fish disease diagnostic laboratory at the Genoa National Fish Hatchery, Wisconsin ($14,000).

Program Description - Great Lakes Fisheries

The goal of the Great Lakes Fisheries Program is to improve the quality, abundance, productivity, and utilization of the fishery resources. The

program is carried out in cooperation with the Great Lakes Fishery Commission, Canada, other U.S. Federal agencies, the eight Great Lakes States, and fishing interests. Major components of the program are: fishery and lake research; fish culture and fish disease control; sea lamprey research and control; and Federal aid to the States.

The fishery research and fish hatchery operation subprograms are funded out of Resource Management funds. Sea lamprey research and control are funded through the U.S. Section of the Great Lakes Fishery Commission which is funded by the Department of State. The Federal aid subprogram is funded under provisions of the Anadromous Fish Conservation Act.

(1) Great Lakes Research + $246,000; total $2,809,000
+ 3 positions, total 88 positions

Research is carried out at seven laboratories and biological stations. Cooperative fishery resource inventories and assessments are made to provide data required for scientific management of the fisheries. The nature and effects of pollutants are determined and recommendations are made of remedial action. Evaluations are made of the success of sea lamprey control and fish stocking. Data on commercial and sport fishing are collated and distributed. These data provide the best overall information used to measure the progress in meeting our goal. Recent accomplishments include the collection and analysis of data required for establishing harvest quotas to protect yellow perch and walleye populations in western Lake Erie; discovery that hatchery lake trout are successfully spawning in Lake Superior; determination that existing concentrations of PCB's and DDE have no apparent effect on the growth, survival, and metabolism of lake trout embryos; and finding that TFM, the lampricide used to control sea lampreys, has no apparent harmful effects on the environment.

(2) Great Lakes Fish Hatcheries + $260,000; total $984,000
+ 1 position, total 33 positions

About 10 million fish are reared at six national fish hatcheries for stocking in the Great Lakes. Lake trout stocking in Lakes Huron, Michigan, and Superior, where sea lamprey control has been achieved, has been extremely successful. Survival rates from the stocked one-ounce fish to the five-pound weight class range from 25 to 50 percent. Excellent sport fisheries have been developed. The major objective of the stocking program is to assist in establishing self-sustaining populations of valuable fishes. This objective will soon be reached in Lake Superior. By 1955, sea lamprey had completely eliminated lake trout from Lake Michigan. Today, the population has been restored to pre-sea lamprey abundance by stocking hatchery fish. However, as yet there is no evidence of natural reproduction in Lake Michigan and Lake Huron. Sea lamprey control and lake trout stocking efforts are rather recent in Lake Ontario and we have only minimal data on the results. Increased research, lamprey control, and lake trout stocking should result in the development of an excellent fishery in Lake Ontario.

GREAT LAKES PROGRAM RESULTS

Fish hatchery production	FY 1977 Estimates	FY 1978 Estimates
Lake trout	4,600,000	5,400,000
Walleye	5,000,000	5,000,000
Brown trout (under contract)	200,000	200,000
Production (numbers)	9,800,000	10,600,000
Production (pounds)	244,000	284,000
Angler-days (cooperative program)	21,000,000	22,000,000
Commercial catch, U.S. pounds	77,000,000	80,000,000
Commercial catch, U.S. value	$10,500,000	$11,000,000
Research projects	37	40

C. Inland Fisheries and Reservoirs Program

Fiscal year 1977, $16,560,000; Fiscal year 1978, $18,124,000 increase of $1,564,000.

Major Program Changes

(1) Inland Fisheries Research; operations and cyclical maintenance	+ $400,000; total $4,454,000 + 2 positions, total 103 positions

Proposal. (a) Efforts to register fish pesticides, drugs and chemicals needed in the propagation and management of fishery resources will be increased in order to reach full compliance with the Federal Environment Pest Control Act of 1972 (Public Law 92-516). (+$200,000; 2 positions)

(b) Cyclical maintenance will be carried out at 5 research facilities. Funds will be used to repair research laboratories. (+$200,000; 0 positions)

Justification. (a) Research is currently underway to develop efficacy and safety data on fish pesticides and drugs in order to reach full compliance with Public Law 92-516. Research required for the registration of 20 high priority compounds is 75 percent complete. Efforts must be increased in fiscal year 1978 to accommodate re-registration requirements and to carry out research on new materials and methods for use in fish husbandry and fish control. Future aquatic use of chemicals will require tolerance data (toxicological safety information) before registration.

Whenever feasible, compounds are cooperatively investigated with industry however, the minor use of most chemicals used in fish culture does not provide the incentive for industry to bear the major burden of developmental costs. Principal efforts will be undertaken at the Fish Control Laboratory, LaCrosse, Wisconsin.

(b) In the past, deterioration of buildings, grounds, and water supplies at many of the Service's fishery research facilities has occured as a result of inadequate funding. Since cyclical maintenance and repair of research facilities has never been recognized or separated from the research operation, the individual station has had to cope with the problem

of keeping the facility intact while trying to carry out the planned research activity.

The stations listed below require funding to care for water leaks, structural corrections, and varied repairs so that selected research projects may be continued.

State	Station	Amount
AK	Alaska Field Station	$65,400
AR	Fish Farming Experimental Station	49,500
AL	Southeastern Fish Cultural Laboratory	16,400
NY	Tunison Laboratory	22,000
WA	Western Fish Disease Lab (Marrowstone)	46,700
	Total	$200,000

Cost Factors. (a) Two permanent positions at an average annual salary and benefits cost of $20,000 ($40,000); travel, equipment and material, ($30,000); contracts ($130,000).

(b) Essential repairs at fishery research facilities, $200,000. Cost estimates were determined by using current Engineering Cost Indices.

(2) Inland Fisheries Fish Hatcheries + $1,164,000; total $11,895,000
+ 2 positions; total 360 positions

Proposal. (a) In-Service training in fisheries, previously conducted at Marion, Alabama; and Spearfish, South Dakota, will be consolidated at the Leetown, West Virginia, Training Center. (+$125,000 and 2 positions).

(b) Strains of fish needed for specific management purposes at the Bozeman Fish Cultural Development Center, Montana, will be tested in cooperation with the Fish Genetics Laboratory (+$60,000 and 0 positions).

(c) Cyclical maintenance will be carried out at 59 fish hatchery facilities. Items include repair of fish production facilities, buildings and other physical facilities (+$979,000 and 0 positions).

Justification. (a) Since 1946 the Fish and Wildlife Service has conducted in-Service training programs at several national fish hatcheries requiring separate school directors and staffs. The objective was to advance the knowledge and skills of employees in the field of fish culture to develop professional hatchery managers and fishery biologists. Specific training, not available at other educational institutions, was provided in fish nutrition, fish pathology, fish production, and hatchery management. This type of training has been curtailed since fiscal year 1974.

The need for people trained in all aspects of fish husbandry with increased emphasis on hatchery management has been well established. The Fish and Wildlife Service has the expertise, knowledge, and cadre of experienced personnel for providing the necessary training.

Funds are required to reestablish long-course training programs which will be conolidated and administered at one location. This will reduce training costs, avoid duplication, and most importantly provide a more professional training atmosphere for future trainees.

(b) Genetic research is unraveling problems of inbreeding that exist in our current broodstocks. Inbred fish have a higher mortality rate and convert food to flesh less efficiently then outbred strains resulting in higher cost of production. These inbred strains also appear to have a lower survival

83-561 O - 77 - 26

rate in the wild resulting in less benefit to the fisherman. Finally, management biologists are now beginning to find that certain strains of fish do better in certain ecological situations. Their work is surfacing a whole new concept of matching fish strains to management needs, and may eventually demand that hatcheries produce new and different strains of fish.

The proposed increase will assist in meeting the Fishery Resources goal of evaluating strains of salmonids developed by the Fish Genetics Laboratory. This evaluation is a necessary transitional step between the research effort and practical management application. The ultimate purpose of this evaluation is to provide more suitable fish for broodstocks and field uses.

(c) To help accomplish the goal of the Fishery Resource Activity, which is to assist in meeting the public demand for fishing while maintaining the Nation's fishes and their habitats at a level and in a condition that will assure the continued survival of these natural resources, the Fish and Wildlife Service requires cyclical maintenance and repair funds for fish facilities.

The Service has not been able to maintain the level of facility cyclical maintenance and repair necessary to adequately protect the real investment and useful life expectancy of fishery resource facilities. The nominal base once utilized for this purpose has been largely diverted to other facets of fishery research and hatchery operations to help defray escalated costs of utilities, supplies, fish feed, and other commodities essential in meeting Service objectives. Prolonged deferment of required cyclical maintenance and repair of fishery resource facilities will result in an increased backlog of this work and a spiraling escalation of their life cycle cost.

A list of priority maintenance and repair items follows:

State	Hatchery	Amount	State	Hatchery	Amount
AL	Carbon Hill	$ 4,300.	AZ	Alchesay - Wms. Creek	$27,400.
AZ	Willow Beach	22,800.	AR	Corning	8,700.
AR	Greers Ferry	7,600.	AR	Heber Springs	1,100.
AR	Mammoth Spring	8,700.	AR	Norfork	51,100.
CA	Coleman	8,800.	FL	Welaka	3,300.
GA	Chattahoochee Forest	10,300.	GA	Cohutta	10,900.
GA	Millen	6,500.	GA	Warm Springs	10,000.
ID	Hagerman	12,900.	KS	Cedar Bluff	8,700.
KY	Frankfort	6,500.	KY	Wolf Creek	4,300.
LA	Natchitoches	5,400.	MA	North Attleboro	4,600.
MN	New London	8,200.	MS	Meridian	17,400.
MS	Tupelo	9,200.	MO	Neosho	27,400.
MT	Bozeman	32,600.	MT	Ennis	81,500.
NV	Lahontan	4,300.	NV	Marble Bluff Fishway	27,200.
NH	Berlin	32,500.	NH	Nashua	7,800.
NM	Dexter	9,200.	NM	Mescalero	4,900.
NC	Edenton	15,200.	NC	McKinney Lake	5,400.
NC	Pisgah Forest	16,300	OH	Hebron	10,900.
OH	Senecaville	11,700.	OK	Tishomingo	16,800.
PA	Allegheny	22,300.	PA	Lamar	22,200.
SC	Cheraw	5,300.	SC	Orangeburg	3,300.
SC	Walhalla	8,200.	SD	Gavins Point	29,300.
TN	Dale Hollow	15,200.	TN	Erwin	34,800.
TX	Inks Dam	38,200.	TX	San Marcos	15,200.

State	Hatchery	Amount	State	Hatchery	Amount
TX	Uvalde	$24,500.	VA	Harrison Lake	$14,800.
VA	Paint Bank	14,600.	VA	Wytheville	14,600.
WV	Bowden	11,300.	WV	Leetown	8,200.
WV	White Sulphur Springs	12,200.	WI	Genoa	8,200.
WI	Lakes Mills	15,200.	WY	Jackson	44,600.
WY	Saratoga	54,400.		Total	$979,000.

Cost Factors. (a) Two permanent positions, at an average annual rate of $17,000 ($34,000); purchase of supplies, office and school equipment and other operational costs, $66,000.

(b) Travel, purchase of supplies, laboratory equipment and other operational costs, $60,000.

(c) Cost estimates of $979,000 for priority maintenance and repair at national fish hatcheries were based on current Engineering Cost Indices.

Program Description - Inland Fisheries and Reservoirs Program
The goal of the Inland Fisheries and Reservoirs Program is to improve the quality, abundance, productivity, and utilization of the Nation's inland fishery resources. Enphasis is placed on the production of fish in numbers and sizes necessary for supporting management requirements for stocking waters on over 300 areas including Indian reservations, National Wildlife Refuges and military areas, national forests, and lands of the Bureau of Land Management. Efforts are also placed on research and development activities directed toward fish disease control, fish nutritional studies, refinement of fish rearing techniques and procedures, designing equipment to increase fish production efficiency, developing a variety of disease free broodstocks and increased effort in aquaculture. The Program is carried out in close coordination with the fish and game agencies of all 50 states as well as many other Federal and private entities.

(1) Fishery Research + $400,000; total $4,454,000
+ 2 positions; total 103 positions

The Inland Fisheries and Reservoirs Program funds 13 fishery research laboratories engaged in such diverse general research areas as ecological studies, fish genetics, fish diseases, reservoir fishery habitat evaluation, fish husbandry technology, development of fish control techniques, and assessing the effects of pesticides upon fishes and the aquatic environment. A total of 103 permanent positions is involved. Some fishery research activities are historic to the Service and have been evaluated against more recently recognized program areas such as fish genetics and ecological research in which there is a desperate need for new knowledge. New emphases are intended to stress a close responsiveness by Fishery Research to the operational programs and needs of the Service, other Federal agencies, and the States.

	FY-1977 Estimate	FY-1978 Estimate
Research Units Projects Completed:	36	38

(2) Fishery Assistance Total $1,775,000
Total 78 positions

The basic role of fishery assistance is to develop fishing opportunities on Federal areas and Indian reservations through the application of modern fishery management techniques, including use of fish produced at national fish hatcheries. The Office of Fishery Assistance works cooperatively with other Federal agencies and the States in similar programs where exclusive jurisdiction does not rest with the Federal Government. A field staff of about 50 permanent management biologists is now engaged in this work. In 1976 assistance was provided on approximately 585 management areas; 66 percent of these were on Federal areas or cooperative Federal-State areas. These areas contain 947,000 acres of lakes, reservoirs, and ponds and 16,000 miles of streams. These waters yielded about 9.5 million man-days of fishing.

	FY-1977 Estimate	FY-1978 Estimate
Indian Projects	81	86
Management Investigations	366	390
Cooperative Management Programs	30	30

(3) Fish Hatcheries + $1,164,000; total $11,895,000
+ 2 positions; total 360 positions

Sixty-nine of the National Fish Hatchery System's hatcheries participate in the production and distribution of fish for the Inland Fisheries and Reservoirs Program, and one protective fish screen and fishway is operated to facilitate upstream migration and to prevent fish from straying into unsuitable waters. Additionally, four Development Centers contribute to the Program by developing and disseminating new and improved technology to promote more efficient fish production and better management of sport fishery habitat. In close cooperation with other Federal agencies and State fish and game agencies, various species of trout and warmwater fish are produced and stocked in prescribed sizes and numbers as required to effectively conserve and enhance the Nation's inland fishery resources to help meet the growing demand for fish for both recreation and food. A permanent workforce of 370 employees is engaged in the program. Targeted production levels for FY 1978 are placed at 111,822,000 fish weighing a total of 4,051,200 pounds.

	FY-1977 Estimate	FY-1978 Estimate
Production, Numbers	111,105,000	111,822,000
Production, Pounds	4,070,200	4,051,200
Angler Days	31,300,000	31,000,000

D. GSA Space Costs +$75,000

Beginning in FY 1975 and in compliance with the Public Buildings Amendments of 1972, PL 92-913, agencies are charged for space and related services provided by the General Services Administration at rates approximately equivalent to commercial charges. The amount requested is required to reimburse GSA for office, special, and storage space needed by the Service to further efforts toward achieving program objectives.

4. Endangered species: Fiscal Year 1977, $10,331,000; Fiscal Year 1978, $12,269,000; increase of $1,938,000. The increase consists of:

Increase (+) or Decrease(-) Amount	Positions	Total Program	Total Positions	Explanation
(A) +$1,451,000	+5	5,536,900	69	Endangered Species Planning and Coordination - Botanists, listing species and critical habitats, Section 7 Consultation, Area Offices.
(B) +$1,085,000	--	2,458,700	26	Species and Habitat Management - National Wildlife Refuges - recovery plan implementation and plant management.
(C) +$375,000	--	852,000	10	Species and Habitat Management - Non-Service Lands - recovery plan implementation.
(D) ----------	--	2,319,000	74	Endangered Species Law Enforcement.
(E) -$1,000,000	--	-0-	--	Endangered Species Grant-in-Aid.
(F) ----------	--	1,075,400	24	Endangered Species Research.
(G) +$27,000	--	27,000	--	GSA Space costs
+$1,938,000	+5	$12,269,000	203	

Program Synopsis

The goal of the Endangered Species Program is to stop endemic plant and animal species endangerments and extinctions caused by man's influence on wild ecosystems and to return the species to the point where they are no longer threatened or endangered.

Major objectives of the Program are to (1) identify species of plants and animals that are in danger of extinction or threatened with endangerment; (2) set priorities among species so those which will benefit most can be acted upon first; (3) provide the first level of protection of species and their critical habitats by according them Endangered or Threatened status; (4) institute planned action programs (recovery efforts) designed to restore listed species to the point where they are no longer Endangered or Threatened; and (5) delist the species and transfer responsibilities for protection and management to other programs of the Fish and Wildlife Service or to other appropriate Federal or State agencies. The scope of the Endangered Species Program provided by the Endangered Species Act of 1973 (16 U.S.C. §§1531-1543) is coordination of the protection and management of all species of animals and plants listed as Endangered or Threatened. Responsibility also extends to status surveys and data gathering for other species being considered or proposed for listing as Endangered or Threatened.

Major program changes proposed for FY 1978 are to (1) acquire botanical expertise and plant management capability; (2) implement necessary actions identified in

endangered species recovery plans; (3) cease funding for the State grant-in-aid program; (4) increase efforts to survey and list candidate species and critical habitats; and (5) increase regional capability to provide consultation on protection of critical habitats.

A. Endangered Species Planning and Coordination.

Fiscal Year 1977, $4,085,900; Fiscal Year 1978, $5,536,900; increase of $1,451,000.

Major Program Changes

Botanists, Listing Species and Critical Habitat, Section 7 Consultation, and Area Offices	+$1,451,000; total $5,536,900 +5 positions; total 69 positions

Proposal. (a) Regional Botanists. Part-time botanist positions will be established in each of six regions and in Hawaii to develop management programs for plants and to provide, upon request, consultation with other Federal agencies whose activities may either jeopardize the continued existence of listed plant species or adversely modify their critical habitats. In addition to dealing with Regional plant conservation and consultation issues, the Regional botanists will investigate species which are candidates for either listing or delisting. (+$350,000)

(b) Listing species and critical habitat. Appropriate contracts will be issued to conduct status surveys to determine which additional plant and animal species should be listed, to obtain the data necessary to support the listing action, and to determine critical habitats that should be protected. (+$456,000)

(c) Section 7 consultation. Part-time biologist positions will be established specifically for the purpose of consulting with Federal agencies as required by section 7 of the Act. On request, these employees will assist other Federal agencies in meeting their section 7 responsibilities by making available appropriate data and reports, assisting in the collection of biological data, conducting required studies (including "threshold examination" of areas in which actions are proposed), and making biological recommendations to assist other Federal agencies in complying with section 7. (+$514,000)

(d) Area Offices. Endangered Species biologist positions will be established for the first time in five Area Offices. These employees will assist the Area Manager in coordinating and affecting endangered species activities for those Areas responsible for a large number of such species. One endangered species specialist will be stationed at each of the following Area Offices: Sacramento, California; Phoenix, Arizona; Austin, Texas; Jacksonville, Florida; and Jackson, Mississippi. (+$131,000; +5 positions)

Justification. (a) Regional Botanists. In Fiscal Year 1977, the Service plans to list approximately 1,000 plant species as Endangered and 800 to 1,200 as Threatened. Many additional species will remain to be studied for possible listing. Because most of the plants proposed for listing are found in the Pacific Coast States and Hawaii, we will begin with status determination of plants found in that Region. One-third such determinations will be for Hawaiian species. The act of listing brings with it the responsibility for action programs to conserve and restore the subject plants. Section 7 of the Endangered Species Act of 1973 requires that the Service provide, upon request, expert consultation on a listed species with other Federal agencies regarding possible harmful effects of actions authorized, funded, or carried out by those agencies. The Service has no internal control over the number and timing of these consultation requests. The proposed botanists are essential to an effective program to save endangered plants.

(b) Listing species and critical habitat. Although over 1900 species have been proposed for listing as endangered or threatened, additional effort is needed to (1) review the status of species already on the U.S. List of Endangered and Threatened Species when the Act was passed in 1973; (2) speed the process of screening species and listing those which qualify; (3) continue to screen plants and gather information on the status and distribution of those which appear to be valid candidates for listing; and (4) delineate critical habitats for all listed species whose protection or restoration might be enhanced by such action. To effectively carry out his work will require more complete status information on all species proposed for listing.

(c) Section 7 consultation. Section 7 of the Act requires that the Service provide consultation and assistance to Federal agencies regarding the effects of their actions on listed species and their habitats. The consultation process offers an excellent means of providing 69 Federal agencies with the benefit of the biological information, opinions and expertise available in the Service to assist those agencies in meeting their responsibilities under the Act. In the past, the Service has responded to requests for consultation under section 7, to the extent possible, with existing manpower. An estimated 10 to 20 thousand requests for consultation are expected in FY 1978; approximately one-half of these will require a "threshold examination" which is an initial determination as to whether further consultation is necessary. Without the additional funds and positions, the Service will be incapable of providing biological consultation to other Federal agencies without interminable delays, detriment to the species and inevitably court actions to settle issues that could have been resolved better through the consultation process.

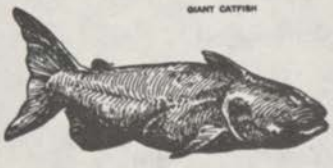
(d) Area Offices. The Area Office concept in FY 1977 offers a unique opportunity for the Service to respond, at the "field level," to public and private inquiries and requests for assistance regarding the endangered species program. Employees assigned to these offices will be responsible for assisting the Area Manager in coordinating and monitoring all aspects of the Endangered Species Program operation in the area, including proposals for species and critical habitat listing, recovery efforts, refuge activities, grants to States and agency consultation work.

Cost Factors. (a) Regional Botanists. Costs for Regional botanists will consist of salaries and benefits for four GS-12 and three GS-11 part-time permanent botanists ($164,000); travel ($36,000); and part-time secretarial assistance ($50,000); and contracts with outside groups to gather scientific data ($100,000).

(b) Listing species and critical habitats. Cost for increasing listing effort will consist of six permanent part-time GS7/9 positions in the Washington and Regional offices ($90,000); travel ($16,000); and contracts with appropriate outside groups to gather scientific data ($350,000).

(c) Section 7 consultation. Costs will consist of salaries and benefits for 16 part-time GS-12/13 biologists and 6 part-time GS-9 biologists ($450,000) and travel ($64,000).

(d) Area Offices. Costs will consist of Area Office salaries and benefits for five permanent full-time GS-12 biologists ($116,000) and travel costs ($15,000).



Program description - Planning and coordination.

Implementing the Endangered Species Act of 1973 began in fiscal years 1973 and 1974 and resulted in solid progress during fiscal years 1975 and 1976. During that period, the Service received 23 petitions under Section 4(c)(2) of the Act to list 169 animals and more than 23,000 plants. As a result of these petitions, and because of actions initiated by the Service itself, Notices for the Review of the status of 3,395 species have been published in the Federal Register as a preliminary step in the listing process. Although not all published reviews have been completed, 2,138 species (including 1,867 plants) have been proposed as Endangered and 55 have been proposed as Threatened. During this same period, final action has been taken on 179 Endangered species and 11 Threatened species. The official list contains 597 Endangered and 11 Threatened species at end of FY 1976. An additional step is necessary for proposals over which there is sharply divided public opinion; Environmental Impact Assessments have been prepared on the listing of 23,973 species. As species are recovered, they will be delisted by a similar process.

In order to collect scientific status information on species which are identified as candidates for listing, contracts have been awarded for 51 status surveys on ecosystems containing an as-yet-unknown number of Endangered or Threatened species.

As many as 20,000 species may ultimately require listing in the United States alone. Experience has indicated that approximately 36 man-days of work are required for each species listed not counting the effort needed to prepare an Environmental Impact Statement if such is necessary. Once a species has been accorded protection under Sections 7 and 9 of the Act, restoration lies in the development of recovery plans which are implemented cooperatively among appropriate State, Federal, and private agencies. To encourage the cooperative approach that is necessary for effective interagency work, the Service has appointed 57 official Recovery Teams responsible for 68 listed species. Primary responsibility of the teams is the development of a recovery plan and the coordination of its implementation among concerned agencies. Recovery Plans for many species are in various stages of preparation and review by the teams and their consultants. Fifteen drafts have been completed and six finals have been submitted to the Service for approval. Four of those have been officially approved.

Section 7 requires all Federal agencies, in consultation with the Fish and Wildlife Service or the National Marine Fisheries Service as appropriate, to utilize their authorities in furthering the purposes of the Act. Guidelines to assist agencies in complying with their section 7 responsibilities have been developed and issued. An Ad Hoc Interagency Committee composed of 11 Federal agencies was convened to advise the two Services in developing this necessary guidance. Among the first requests for consultation originating in FY 1976 were those from the Federal Highway Administration concerning Interstate Highway I-10 in Mississippi relating to the Mississippi sandhill crane and from the Tennessee Valley Authority concerning the Tellico dam and the snail darter in Tennessee.

A total of 33 nations have now ratified or acceded to the Convention on International Trade in Endangered Species of Wild Fauna and Flora. The first meeting of the Convention took place in Berne, Switzerland, in November 1976. Plans are being implemented to deal with the increase in responsibilities at designated ports and in the issuance of permits under the Convention.

B. Species and Habitat Management - National Wildlife Refuges.

Fiscal Year 1977, $1,373,700; Fiscal Year 1978, $2,458,700; increase of $1,085,000.

Major Program Changes

Recovery Plan Implementation and Plant Management	+$1,085,000; total $2,458,700 +0 positions; total 26 positions

Proposal. (a) Recovery plan implementation. It is important to implement priority recovery actions as soon as possible after recovery plans are completed for each species. While five are completed and at various stages of implementation, most actions funded under this item would be from 60 plans yet to be completed and approved. Actions to be included here would be primarily management type actions on refuge lands but could also include some enforcement, research, and propagation. ($625,000).

(b) Plant management. Surveys will be initiated to locate listed plants on 25 Service sites and to develop long-range plans to conserve these species. ($460,000).

Justification. (a) Recovery plan implementation. This proposal concerns actions which deal primarily with higher vertebrates in the United States, but by FY 1978 will include some invertebrates such as mollusks, and insects. As of January 1, 1977, 57 official Recovery Teams had been appointed to be responsible for 68 listed species. Teams will be appointed for as many species and recovery plans as necessary to protect and recover listed animals. By FY 1978, there will be 70 recovery teams covering 225 species and an estimated 85 approved plans. These plans will contain many specific recovery actions currently being identified, such as special research, transplanting, or rehabilitation of deteriorated habitat which must be implemented as soon as possible to save the species. Prompt support of these recovery plans by funding the most urgent parts recommended by the team will encourage maximum support and cooperation of other State, Federal, and private agencies involved resulting in the maximum benefit to the species per Service dollar spent. Up to five dollars worth of recovery plan actions will be funded by other agencies and private groups for every dollar expended by the Service.

(b) Plant management. Of the 1,000 plant species to be listed soon as Endangered, an estimated 150 or more are located on national wildlife refuges and fish hatcheries. It is imperative that the Service institute conservation programs for plants on refuges not only to adequately protect species on lands under its jurisdiction but to set a high standard for other Federal land-managing agencies. It will be necessary in the future to maintain an appropriate state of plant succession, fence certain areas to exclude people and domestic animals, and provide fire control and other developments to prevent extinction of the plants.

Cost factors. (a) Recovery plan implementation. Positions for Recovery Plan implementation will be assigned where appropriate at the beginning of FY 1978 and will include three permanent part-time GS-11/12 ($50,000) and 26 permanent part-time GS-9's ($385,000). Travel will cost $25,000. An estimated $65,000 will be used for research contracts and $100,000 for habitat management.

(b) Plant management. Three permanent part-time botanist GS-9/11 positions will be established in those Regions where it appears that the greatest number of listed plants occur on Service lands ($55,000). Field assistance in the form of 14 man-years of part-time or temporary help will be employed ($168,000). Travel primarily among refuges, will cost $5,000. Supplies such as fencing and signs, $150,000. Some of the detailed survey work will be done by contract with appropriate botanical authorities ($54,000). Administrative and support costs ($28,000).

Program description - Species and habitat management - National Wildlife Refuges.

Forty-four Endangered or Threatened animals are found on 139 Service stations. Because of priorities, not all species are actively managed on all stations, but they and their existing habitats receive protection as a minimum benefit. In some cases, refuges established for other purposes host listed species at some time during the year. Some of these refuges, such as Aransas National Wildlife Refuge, have come to serve as critical support elements for an endangered species (whooping crane). Examples of important species management actions taking place on Service lands are shown in the following table:

Species	Action	Station
Brown pelican	Protection of major nesting colonies.	Pelican Island, FL and Cape Romain, SC NWR
California least tern	Protection of nesting colonies.	Salton Sea, and San Francisco Bay NWR's, CA
California clapper rail	Water management in essential habitat.	San Pablo Ban and San Francisco Bay NWR's, CA
Light-footed clapper rail	Water management in essential habitat.	Seal Beach NWR, CA
Yuma clapper rail	Water management in essential habitat.	Havasu, Imperial, and Cibola NWR's, AZ and CA
Pahrump killifish	Maintenance of only existing population in refuge pond.	Desert NWR, NV
Columbian white-tailed deer	Hosting major portion of remaining population.	Columbian White-tailed Deer NWR, OR and WA
Whooping crane	Maintenance of wintering habitat for both Wood Buffalo and Gray's Lake populations and breeding habitat for Gray's Lake experimental population.	Aransas, TX, Bosque del Apache, NM, and Gray's Lake, ID NWR's
Attwater's greater prairie chicken	Restoration of habitat.	Attwater's and Aransas NWR's TX
Sonoran pronghorn	Protection of habitat from cattle grazing.	Cabeza Prieta NWR, AZ
Florida everglade kite	Management of the apple snail, the sole food source of the kite.	Loxahatchee NWR, FL
Key deer	Protection of the deer and its habitat restored the species and continues to serve as reservoir for surrounding habitat.	Key Deer NWR, FL
Dusky seaside sparrow	Development of optimum habitat and protection from wild fire.	St. Johns NWR, FL
Delmarva fox squirrel	Protection of an important segment of remaining habitat.	Eastern Neck and Blackwater NWR, MD
Aleutian Canada goose	All restoration work on existing population taking place on Service lands including fox removal and reintroduction of birds.	Aleutian Island NWR, AK
California condor	Protection of nest sites and artificial feeding.	Hopper Mountain, NWR, CA

Species	Action	Station
Big Bend gambusia	Maintenance of captive population.	Dexter NFH, NM
Hawaiian gallinules, stilt, and coot	Protection of fast-disappearing wetlands habitat.	Individual units of the wide-ranging Hawaiian NWR
Salt marsh harvest mouse	Protection of key habitat.	San Francisco Bay NWR, CA
Red cockaded woodpecker	Maintenance of essential conditions for colonies of nesting birds.	Cape Romain, SC; Carolina Sandhills, SC; Mattamuskeet, NC; Swanquarter, NC; Noxubee, MI; Okefenokee, GA; Piedmont, GA; St. Marks, FL; and Santee, SC NWR's
Red Wolf	Reestablishing a population on Bulls Island.	Cape Romain NWR, SC

C. Endangered Species Habitat Management - Non Service Lands.

Fiscal Year 1977, $477,000; Fiscal Year 1978, $852,000; increase of $375,000.

Major Program Changes

Recovery Plan Implementation	+$375,000; total $852,000 +0 position; total 10 positions

Proposal. To implement management actions on non-Service lands as soon as the recovery plan for each species is completed.

Justification. Recovery plan actions that are designed to aid species on non-Service lands will be implemented as soon as recovery plans for each species are completed. Not only are recovery plans requiring considerable time to complete, they are subject to constant updating. Delays in securing implementing funds only after each plan is completed can be harmful to the species. The purpose of this proposal is to maintain a source of readily available funds to implement key actions as soon as species needs are known. No single action will cost over $50,000 per annum. Possible actions include, but are not limited to, maintaining a Service biologist to oversee the welfare of a species whose critical habitat is all or mostly on non-Service land, contracting habitat development action on non-Service lands or carrying on actions along with cooperator actions for controlling predators, competitors, or habitat manipulation. (+$375,000)

Cost Factors. Coordination of recovery actions on non-Service lands will be handled with existing staff. An estimated $340,000 will be used for management contracts, $35,000 for research contracts.

Program description - Species and Habitat Management - Non-Service lands.

Many actions are currently conducted on non-Service lands for the benefit of endangered species. These include species monitoring, propagational release, provision of food, predator control and maintenance.

Among the management actions taking place on non-Service lands are the following:

Kirtland's Warbler - Cowbird control on private and State lands to prevent nest parasitism in Michigan.

Cui-ui - Hatchery operation on Indian lands in Nevada.

Puerto Rican Parrot - Artificial propagation of parrot eggs on Forest Service lands. Hatchlings are returned to nests, thus preventing egg predation by pearly-eyed thrasher in Puerto Rico.

Peregrine Falcon - Determination of nesting success of peregrine falcon in Pacific northwest.

D. Endangered Species Law Enforcement.

Fiscal Year 1977, $2,319,000; Fiscal Year 1978, $2,319,000; no change.

Major Program Changes

Law Enforcement	Total $2,319,000 Total 74 positions

Program description - Endangered Species Law Enforcement

It is the responsibility of the Division of Law Enforcement to reduce to the minimum level possible the taking of Endangered and Threatened species through the detection and prosecution of violations of the Endangered Species Act. The full range of law enforcement techniques are used including among other things: (1) surveillance of areas of concentration of native Endangered species to prevent taking; (2) the development of reliable sources of information; (3) the inspection of shipments arriving at ports of entry for importation and exportation, to eliminate the U.S. market for foreign Endangered species; (4) the investigation of known and suspected violations; and (5) where appropriate, the assessment of civil penalties, or presentation to the Department of Justice for criminal prosecution.

Since the enactment of the Endangered Species Act in December 1973, the Division of Law Enforcement has initiated over 3,000 investigations into known or suspected violations. In addition, approximately 127,000 wildlife importations have been declared at ports of entry and appropriate action taken by the Division of Law Enforcement.

Thirty-one Special Agents and six inspectors now are assigned to eight designated ports and some nondesignated ports to control imports/exports of listed species and Convention species. In 1976, approximately 70,000 shipments were handled. Ten additional agents enforce domestic laws and assist in carrying on investigations related to port cases. Mechanisms have been set up in FY 1976 for full implementation of the International Convention in FY 1977.

Investigations

Fiscal Year	Opened	Closed	Pending
1976	1100	1000	750
1977(projected)	1200	1100	750
1978(projected)	1300	1200	750

D. Endangered Species Grant-in-aid.

Fiscal Year 1977, $1,000,000; Fiscal Year 1978, $0; decrease of $1,000,000.

Major Program Changes

Proposal. The Service will encourage States to increase their appropriation for Endangered Species work. No grant-in-aid Federal appropriation will be requested in FY 1978.

Justification. Most States have endangered species protection programs. If

States require Federal financial assistance, they may apply for Federal Aid Fish and Wildlife Restoration Funds, estimated to be $114,000,000 in FY-78, for this purpose. (-$1,000,000)

Program description.

The purpose of the Endangered Species State grant-in-aid program is to encourage State participation in species restoration efforts. Grant funds ($3 million) have been appropriated in FY 1976 and FY 1977. States have submitted proposals which have been reviewed and, as a result, $1,165,000 has been earmarked for 16 States. The States are expected to submit project plans and agreements for approval soon. It is planned to allocate the remaining $1,835,000 by the end of FY 1977.

Some of the funds will be used for population and habitat inventories for the peregrine, black-footed ferret, Kirtland warbler, and brown pelican; propagation of the greenback cutthroat trout; habitat acquisition for the Morro Bay kangaroo rat and peregrine; establishment of breeding populations of peregrines; and protection of Indiana bat caves.

F. Endangered Species Research.

Fiscal Year 1977, $1,057,400; Fiscal Year 1978, $1,057,400; no change.

Research	Total $1,057,400 Total 17 positions

Program Description.

Research serves the Endangered Species Program in three ways: (1) it provides answers to questions necessary to carry out Endangered species restoration; (2) it discovers propagation methods and produces captive propagated stock suitable for reintroduction into the wild; and (3) it administers contracts for experimental research and endangered species surveys. Research takes place primarily at Patuxent Wildlife Research Center in Maryland and at eight field stations in Hawaii (two), California, Arizona, Minnesota, South Dakota, Florida, and Puerto Rico.

More species of birds are on the edge of extinction in Hawaii than in any of the other 50 States. In 1976, biologists organized surveys of forest birds in Hawaii by systematic searches of remote forest areas of the Big Island by teams of skilled observers hired on a part-time basis. Results are still being analyzed, but preliminary conclusions show more Akepa and Hawaiin creepers and fewer Akiapolaau than expected. In Puerto Rico, we have achieved recent success in understanding the threats to the 15-20 parrots that remain in the wild. The cause for recent losses has been documented, and success has been achieved in incubating wild eggs and returning young to the nest. Black-footed ferrets brought into captivity have reproduced. Space and habitat requirements of the Eastern timber wolf have been obtained through the use of extensive telemetry and radio tracing efforts in Minnesota.

Field work in California on the condor has resulted in a better understanding of the limitations under which this species survives. Management measures derived from this research include a project to supply wild birds with supplementary food. Study of the Florida everglade kite focuses on the importance of habitat and suitable conditions for the apple snail, the kites only food.

Captive whooping cranes are attaining sexual maturity and are producing some fertile eggs. Several young were produced in 1975 and 1976; one survived. Additional whooper eggs were used in the Gray's Lake sandhill crane foster parent experiment. Aleutian Canada geese are being reestablished on islands cleared of exotic foxes in the Aleutian Chain.

G. GSA Space costs. +$27,000

Major Program Changes

Beginning in FY 1975 and in compliance with the Public Buildings Amendments of 1972, PL92-213, agencies are charged for space and related services provided by the General Services Administration at rates approximately equivalent to commercial charges. The amount requested is required to reimburse GSA for office, special, and storage space needed by the Service to further toward achieving program objectives.

NORTHERN ROCKY MOUNTAIN WOLF

PEREGRINE FALCON

6. Administration: Fiscal year 1977, $6,158,000; Fiscal year 1978, $6,184,000; increase of $26,000. This activity is comprised of two programs: Executive Direction, funded from the direct appropriation for this activity, and Administration and Related Support Services. Funding for the latter, shown as non-add amounts below as indicated by parentheses, is derived from assessments against other accounts (direct appropriations, transfers, advances, and reimbursements) available to the Service and against other activities of this appropriation for the operating programs. The increase consists of the following:

Increase (+) or Decrease (-)

	Amount	Positions	Total Program	Total Positions	Explanation
(A)	+$26,000	---	$6,184,000	140	Executive Direction GSA space costs and annualization of pay costs
(B)	(+700,000)	(+19)	(11,517,000)	(250)	Administration and Related Support Services (non-add program)
	+$26,000		$6,184,000	140	
	(+700,000)	(+19)	(11,517,000)	(250)	

Program Synopsis

The Service mission is: Provide the Federal leadership to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people. The two programs which comprise this activity--Executive Direction, and Administration and Related Support Services--are linking mechanisms for developing, conducting and coordinating the 13 major operational programs of the Service in support of that mission. The specific goals of these two programs are (a) to develop and maintain a dynamic management environment which best promotes effective performance in achieving Service goals and program results, and (b) to provide quality professional administrative support to all management levels which will facilitate conduct and accomplishment of the operational programs.

Representative long-term objectives of these two programs are to:

--Improve use of respective capabilities and authorities among the Service, other Federal agencies, the States and international entities for stewardship of fish and wildlife.

--Establish beneficial and practical ways to enhance public participation in and understanding of decisions and actions to protect, enhance, and conserve fish and wildlife.

--Assure equitable opportunities for personal growth of all employees in development of those professional capabilities needed for support of the Service mission.

--Provide the Service with a modern and effective financial management and accounting system that is responsive to management needs.

--Provide funds control procedures for Service funds to assure proper use and provide appropriate reports of accountability.

A. Executive Direction

Fiscal year 1977, $6,158,000; Fiscal year 1978, $6,184,000. Increase of $26,000. Total Positions 140.

Major Program Changes

Proposal. Provides for increased GSA space costs ($15,000); and annualization of employee pay raises ($11,000).

Justification. Beginning in fiscal year 1975 and in compliance with the Public Buildings Amendments of fiscal year 1972, PL 92-913, agencies are charged for space and related services provided the General Services Administration at rates approximately equivalent to commercial charges. The amount requested is required to reimburse GSA for office, special, and storage space needed by the Service to further efforts toward achieving program objectives.

The pay increase is needed to annualize the October 1976 civilian pay raise. The additional funds are needed for continuing operations at the fiscal year 1977 level.

Program Description - Executive Direction. This program includes directorate level positions in the Washington, Alaska headquarters, and six regional offices; such Washington staff offices as legislative services, equal opportunity, public information, international affairs, and planning and budget; and secretarial support positions. In June 1976, the Senate Commerce Committee concurred with the Service proposal to complete establishment of Area Offices. A reclassification of the manager and one support position for each of the 18 Area Offices has been made to conform resource levels with actual performance by shifting to this program resources formerly financed by other activities. This involves 36 positions and $882,000.

Directorate level positions are responsible for planning, developing, funding, executing, and evaluating Service programs. The associate directors and Assistant Director for Administration serve as the principal or national managers for these programs and are accountable to the Director for accomplishment of the annual program operating objectives. The directorate level positions also represent the Service and the interests of fish and wildlife resources with other Federal agencies, the Congress, State natural resource or wildlife agencies, and national and international organizations with wide-ranging interests in fishery, wildlife, ecological, and environmental matters. The planning and budget office is the core staff for the Service's program management system, with responsibilities for developing and integrating the internal processes to support this system, developing policy options, clarifying issues for decisionmaking, critically reviewing program budget proposals, and solidifying their implementation and evaluation.

The outputs of the Executive Direction program include a well-defined understanding of the Service's mission, goals, and objectives; a common management concept and system to govern program performance; delineation of responsibility and accountability among management levels; creation of efficient organizational arrangements; and effective representation of natural resource interests to others.

B. Administration and Related Support Services

Fiscal year 1977, ($10,817,000); Fiscal year 1978, ($11,517,000). Increase of ($700,000). This program is a non-add item.

Major Program Changes

(1) Administration +$400,000; total $8,319,000
+19 positions; total 250 positions

Proposal. Approximately $140,000 and seven positions will be used to provide personnel support for recruitment, hiring, and servicing related to the 500 new ceilings and funds requested for increasing the operations and maintenance capability of the National Wildlife Refuge System. Twelve positions and approximately $260,000 will be used to provide contracting support for construction funds anticipated in the supplemental Bicentennial Land Heritage Program proposal. (+$400,000; +19 positions).

Justification. The total number of positions in the Fish and Wildlife Service has not fluctuated greatly in recent years. Our present personnel support capability has been geared to a fairly static level of total positions. Increased workload, both in initial recruiting and hiring as well as the continued servicing of 500 new positions, will require one additional employee in each of our six regional and Washington personnel offices. The Service intends to make maximum effective utilization of these 500 additional positions by recruiting personnel and bringing them onboard as soon as possible in fiscal year 1978. These seven personnel positions and supporting funds will enable us to maintain continuity in personnel support capability while proceeding in a systematic manner to effectively and quickly utilize the 500 new positions.

The proposed Bicentennial Land Heritage Program will provide funds for many construction and rehabilitation type projects requiring development, award, and management of contracts. These projects will be carried out at refuges throughout all regions of the Service. Present contracting support capability cannot effectively handle an increase of the planned magnitude (approximately $26 million and 100-150 projects). The 12 positions and supporting funds will provide for one additional contracting support position in each of our regional contracting offices, and six in the construction contracting office in Denver. These additional 12 positions are essential to enable efficient and effective provision of necessary contracting support for the BLHP funds.

Cost Factors- The categories of costs involved are as follows.

Category of Cost	($000)
Personnel Compensation, and benefits and travel	$350,000
Supplies, etc.	50,000
Total	$400,000

(2) Related Support Services +$300,000; total $3,198,000
total 0 positions

Proposal. The increase is needed to finance increased common services costs, such as Federal Telecommunications System, postage, and centralized payroll processing provided by the Department.

83-561 O - 77 - 27

Justification. Costs for items in this category are to some extent uncontrollable, since the level of charges is set by organizations outside the Fish and Wildlife Service. This request provides for increased costs of maintaining the present level of services, and except for supporting the additional personnel requested in fiscal year 1978, does not provide for expanded services.

Program Description - Administration and Related Support Services. The primary purpose of this program is to provide professional administrative support to all management and operational levels of the Fish and Wildlife Service. This program necessarily interacts with every other organization, office, and function of the Service on a daily basis and promotes efficient and successful management of the Service's programs. This program is also responsible for assuring that all of the Service's business is conducted in compliance with legal, regulatory, and administrative policy requirements and limitations.

Services provided include centralized fiscal examining and accounting and employee payrolling, which directly support all operating programs. Other key support areas include personnel management and organization, contracting, space acquisition and management, property management, procurement, ADP services, Safety, correspondence services, financial and management systems, paperwork management, and directives control.

The centralized accounting services and processing of financial data is done at the Denver Service Center. The other functions are carried out through professionally staffed administrative offices in the Washington and regional offices.

Related support includes cost of those services applicable to the entire Service that cannot be readily assigned directly to a program area or function and which are commonly funded on a clearing account basis. Examples of these are health services, postage, teletype/facsimile service, administrative printing and reproduction, management development training, ADP payroll costs, FTS and local telephone service, and Departmental services.

The outputs of this program include policy guidance on a wide variety of administrative procedures; management reports based on program and financial data processed at the Denver Service Center; timely hiring of new employees; timely processing of salary checks; external financial and accounting reports; accomplishment of contracts; centralized processing of priority correspondence; procurement transactions; space acquired; ADP assistance provided; a Servicewide Safety program; and many other types of direct benefits to all program areas. The effectiveness of this program is reflected in accomplishments at all levels of the Service, in all program areas.

Financing of Administration Activity

As indicated above, financing for the two programs nationwide is derived from funds appropriated directly to the activity plus an assessment applied to permanent indefinite appropriations, construction funds, appropriation transfers, and advances and reimbursements. Specifically, for funds available primarily for salaries and expenses, the assessment rate is about 8 percent; for funds available for other purposes, such as land acquisition and payments to the States, the rate is about 1.0 percent.

The sources of funding for Administration are as follows:

Appropriation	FY 1977 Estimate	FY 1978 Estimate	Increase (+) or Decrease (-)
Direct Funding:			
Resource management-Administration	$6,158,000	$6,184,000	$+26,000
Other Funding:			
Resource management-assessed amounts	6,516,000	6,781,000	265,000
Construction and Anadromous Fish	325,000	233,000	-92,000
Migratory Bird Conservation account	762,000	545,000	-217,000
Miscellaneous appropriations (permanents)	1,487,000	1,581,000	94,000
Transfer appropriations			
Bureau of Reclamation	50,000	---	-50,000
Corps of Engineers, Civil	431,000	104,000	-327,000
Other	870,000	856,000	-14,000
Consolidated Working Fund		587,000	587,000
Advances and Reimbursements	376,000	830,000	454,000
Total, other funding	10,817,000	11,517,000	700,000
Grand Total	16,975,000	17,701,000	726,000

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 [$128,861,000, of which not to exceed $1,000,000 shall remain available until expended: Provided, That $9,198,000 shall be available for obligation only upon the enactment into law of H.R. 8092, Ninety-Fourth Congress, or similar legislation] $155,628,000.

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

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 76 actual	19 TQ	19 77 estimate	19 78 estimate
Program by activities:				
1. Habitat preservation	21,900	6,675	26,180	31,668
2. Wildlife resources	55,500	13,539	62,422	76,111
3. Fishery resources	25,954	5,979	27,955	29,396
4. Endangered species	7,409	2,132	12,327	12,269
5. Administration	4,453	1,291	6,158	6,184
Total, direct program	115,216	29,616	135,042	155,628
Reimbursable program				
7. Replacement of personal property sold	159	42	200	200
8. Miscellaneous services other agencies				
(a) Habitat preservation ...	4,178	938	5,476	7,476
(b) Wildlife resources	2,252	1,027	5,460	5,460
(c) Fishery resources	1,455	526	2,832	2,832
(d) Endangered species	2	....	3	3
(e) Administration	15	6	29	29
Subtotal	7,902	2,497	13,800	15,800
Total, reimbursable program ...	8,061	2,539	14,000	16,000
Total program costs, funded ...	123,277	32,155	149,042	171,628
Change in selected resources	-4,398	7,112	....	....
10 Total obligations	118,879	39,267	149,042	171,628
Financing:				
11.00 Federal funds	-6,821	-2,318	-11,500	-13,500
14.00 Non-Federal sources	-1,240	-221	-2,500	-2,500
21.00 Unobligated balance available, start of period.	....	-9,932	-1,996	....
24.00 Unobligated balance available, end of period...	9,932	1,996	....	....
25.00 Unobligated balance lapsing	....	690	....	....
60.00 Budget authority	120,750	29,482	133,046	155,628

STANDARD FORM 300–T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

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 76 actual	19 TQ	19 77 estimate	19 78 estimate
Budget authority:				
40.00 Appropriation	120,750	29,482	133,046	155,628
Relation of obligations to outlays:				
44.10 Supplemental now requested for wageboard pay raise...	....	....	429	....
44.20 Supplemental now requested for civilian pay raise ...	....	....	3,756	....
71.00 Obligations incurred, net.	110,818	36,728	135,042	155,628
72.00 Obligated balance, start of year	19,341	14,944	21,904	28,061
74.00 Obligated balance, end of year	-14,944	-21,904	-28,061	-35,562
77.00 Adjustments in expired accounts	-145	-7	....	....
90.00 Outlays, excluding pay raise supplementals	115,070	29,761	124,867	147,960
91.10 Outlays from wageboard pay raise supplemental ..	....	....	410	19
91.20 Outlays from civilian pay raise supplemental	....	....	3,608	148
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
RESOURCE MANAGEMENT

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 14-1611-0-1-303	1976 actual	19TQ	1977 estimate	1978 estimate
Direct obligations				
Personnel compensation:				
11.1 Permanent positions	59,068	15,517	75,008	82,983
11.3 Positions other than permanent	8,787	3,827	11,072	13,574
11.5 Other personnel compensation	2,688	785	3,154	3,317
11.8 Special personal services payments	12	....	15	....
Total personnel compensation	70,555	20,129	89,249	99,874
Personnel benefits:				
12.1 Civilian	7,460	2,215	9,342	10,429
13.0 Benefits for former personnel	121	16	123	123
21.0 Travel and transportation of persons	4,696	1,656	5,508	6,546
22.0 Transportation of things	1,149	791	1,045	1,495
23.1 Standard level user charges	3,987	1,038	4,812	5,941
23.2 Other rent,comm.&utilities	4,356	986	3,678	2,983
24.0 Printing and reproduction	748	384	661	903
25.0 Other services	9,976	3,581	9,895	14,915
26.0 Supplies and materials	8,681	3,360	7,509	8,770
31.0 Equipment	3,240	2,439	3,197	3,372
32.0 Lands and structures	318	308	224	478
~~33.0 Investments and loans~~				
41.0 Grants, subsidies, and contributions	60	....	....	....
42.0 Insurance claims and indemnities	504	6	513	513
~~43.0 Interest and dividends~~				
91.0 Unvouchered	79	....	....	....
Total costs, funded	115,930	36,909	135,756	156,342
94.0 Change in selected resources	-4,398	....	....	....
Subtotal	111,532	36,909	135,756	156,342
95.0 Quarters & subsistence	-714	-181	-714	-714
99.0 Total obligations	110,818	36,728	135,042	155,628
	(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

STANDARD FORM 304–T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
RESOURCE MANAGEMENT

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 14-1611-0-1-303	19 76 actual	19 TQ	19 77 estimate	19 78 estimate
Reimbursable obligations				
Personnel compensation:				
11.1 Permanent positions	2,138	427	1,315	1,510
11.3 Positions other than permanent	1,070	393	1,951	2,464
11.5 Other personnel compensation	130	31	140	140
~~11.8 Special personal services payments~~				
Total personnel compensation	3,338	851	3,406	4,114
Personnel benefits:				
12.1 Civilian	332	102	339	432
~~13.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons	389	109	908	1,067
22.0 Transportation of things	255	92	596	700
23.2 Other rent,comm.&utilities	95	30	222	261
24.0 Printing and reproduction	18	5	42	49
25.0 Other services	2,584	1,188	6,035	6,496
26.0 Supplies and materials	425	138	993	1,166
31.0 Equipment	290	....	677	796
32.0 Lands and structures	335	24	782	919
~~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~~				
Total costs, funded	8,061	2,539	14,000	16,000
99.0 Total obligations	118,879	39,267	149,042	171,628
	(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

STANDARD FORM 300–T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
RESOURCE MANAGEMENT
PERSONNEL SUMMARY

Identification code 14-1611-0-1-303	19 76 actual	19 TQ	19 77 estimate	19 78 estimate
Direct:				
Total number of permanent positions	3,620		3,941	4,372
Full-time equivalent of other positions	924		1,106	1,296
Average paid employment	4,599		5,047	5,668
Average GS grade	9.62		9.68	9.74
Average GS salary	$17,531		$18,402	$18,412
Average salary of ungraded positions	$13,747		$14,723	$14,723
Reimbursables:				
Total number of permanent positions	128		82	82
Full-time equivalent of other positions	112		195	235
Average paid employment	217		277	317
Average GS grade	9.62		9.68	9.74
Average GS salary	$17,531		$18,402	$18,412
Average salary of ungraded positions	$13,747		$14,723	$14,723
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

FISH AND WILDLIFE SERVICE

Construction and Anadromous Fish

Appropriation, 1977		$17,211,000
Unobligated balance from prior years		17,686,281
Total available for obligation		34,897,281
Decreases		
Construction and rehabilitation	$30,930,077	
Anadromous fish	3,967,204	34,897,281
Increases		
Construction and rehabilitation	9,170,000	
Anadromous fish	3,522,000	
Budget Estimate, 1978		12,692,000

Ruddy Ducks

Construction and Anadromous Fish

Analysis by Activities

Activity/Subactivity	Appropriation 1976	Appropriation 1977	Permanent Positions	1978 Budget Estimates	Permanent Positions	Budget Estimate 1978 compared with Appropriation 1977	Permanent Positions	Page Ref.
1. Construction and rehabilitation								
Appropriation	15,983,000	13,698,000	32	9,170,000	32	-4,528,000	--	FWS-122
Unobligated balance brought forward	7,205,720	17,232,077		6,600,000		-10,632,077		
Obligation program	5,956,643	24,330,077		15,770,000		-8,560,077		
Unobligated balance carried forward	17,232,077	6,600,000		....		-6,600,000	--	
2. Anadromous fish								
Appropriation	4,388,000	3,513,000	8	3,522,000	8	9,000	--	FWS-129
Unobligated balance brought forward	172,058	454,204		100,000		-354,204		
Obligation program	4,105,854	3,867,204		3,622,000		-245,204		
Unobligated balance carried forward	454,204	100,000		....		-100,000		
Total appropriation	20,371,000	17,211,000	40	12,692,000	40	-4,519,000		
Total unobligated balance brought forward	7,377,778	17,686,281		6,700,000		-10,986,281		
Total obligation program	10,062,497	28,197,281		19,392,000		-8,805,281		
Total unobligated balance carried forward	17,686,281	6,700,000		....		-6,700,000		

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); [$17,211,000] $12,692,000, to remain available until expended.

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE
CONSTRUCTION AND ANADROMOUS FISH

Program and financing (in thousands of dollars)

	Costs to this appropriation						Analysis of financing			
	Total estimate	June 30 1975	1976 actual	TQ estimate	1977 estimate	1978 estimate	Deduct selected resources and unobligated balance, start of year	Add selected resources and unobligated balance, end of year	Appropriation required 1978	Appropriation required to complete
Program by activities:										
1. Construction & rehabilitation										
a. New facilities	60,757	8,912	6,347	535	9,632	....	16,467	6,746	....	28,585
b. Rehab of facilities	26,244	1,850	1,410	1,008	4,066	8,860	3,951	6,596	8,860	2,454
c. Pollution abatement	3,277	693	706	48	....	310	....	169	310	1,351
2. Anadromous fish	....	....	3,575	363	3,513	3,522	4,781	4,988	3,522	....
Total program costs, funded	90,278	11,455	12,038	1,954	17,211	12,692	25,199	18,499	12,692	32,930
Change in selected resources (undelivered orders)	....	....	-4,944	....	3,183	6,700				
10 Total obligations			7,094	10,772	20,394	19,392				
Financing:										
17.00 Recovery of prior-year obligations			....	....	....	....				
21.00 Unobligated balance available, start of year			-7,378	-19,595	-9,883	-6,700				
24.00 Unobligated balance available, end of year			19,595	9,883	6,700	....				
40.00 Budget authority (appropriation)			19,311	1,060	17,211	12,692				
Relation of obligations to outlays:										
71.00 Obligations incurred, net			7,094	2,969	28,197	19,392				
72.00 Obligated balance, start of year			12,763	7,819	8,834	18,499				
74.00 Obligated balance, end of year			-7,819	-8,834	-18,499	-18,613				
90.00 Outlays			12,038	1,953	18,532	19,278				

FMS-119

STANDARD FORM 304-T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

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	19 76 actual	19 TQ	19 77 estimate	19 78 estimate
Personnel compensation:				
11.1 Permanent positions	727	169	773	773
11.3 Positions other than permanent	97	39	100	105
11.5 Other personnel compensation	16	4	16	16
~~11.8 Special personal services payments~~				
Total personnel compensation	840	212	889	894
Personnel benefits:				
12.1 Civilian	115	24	93	125
~~12.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons	148	49	220	230
22.0 Transportation of things	39	6	40	40
23.2 Other rent,comm.&utilities--	29	9	30	30
24.0 Printing and reproduction	262	8	265	260
25.0 Other services	3,717	224	10,944	6,343
26.0 Supplies and materials	132	8	180	175
31.0 Equipment	99	35	135	130
32.0 Lands and structures	3,308	848	1,250	1,300
~~33.0 Investments and loans~~				
41.0 Grants, subsidies, and contributions	3,345	531	3,165	3,165
42.0 Insurance claims and indemnities	4	....	....	....
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
Total costs, funded	12,038	1,954	17,211	12,692
94.0 Change in selected resources	-4,944	1,015	10,986	6,700
99.0 Total obligations	7,094	2,969	28,197	19,392
(Memo cost: 22.18)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5)

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
CONSTRUCTION AND ANADROMOUS FISH
PERSONNEL SUMMARY

Identification code 14-1612-0-1-303	19 76 actual	19 TQ	19 77 estimate	19 78 estimate
Total number of permanent positions	42		42	42
Full-time equivalent of other positions	10		10	10
Average paid employment	55		52	52
Average GS grade	9.62		9.68	9.74
Average GS salary	$17,531		$18,402	$18,412
Average salary of ungraded positions	$13,747		$14,723	$14,723
(Memo cost: 22.13)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 6)

1. Construction, Rehabilitation, Pollution Abatement: Fiscal Year 1977, $13,698,000; Fiscal Year 1978, $9,170,000; decrease of $4,528,000. The Fiscal Year 1978 program consists of:

Increase (+) or Decrease (-)

	Amount	Positions	Total Program	Total Positions	Explanation
(1)	+$ 750,000	-	$ 750,000	-	Inland Fisheries Rehab Leetown Lab building
(2)	+ 75,000	-	75,000	-	Coastal Anadromous Fisheries Rehab salt water system
(3)	+ 8,005,000	-	8,005,000	-	Wildlife Resources Rehab refuge system facilities
(4)	+ 300,000	-	300,000	-	Fishery Resources Pollution abatement control
(5)	40,000	-	40,000	-	October 1976 Pay Raise
	+$9,170,000	-	$9,170,000	32	

Program Synopsis

(1) Remodel an existing laboratory building for use as classrooms; (2) replace deteriorated sea water supply and drain system at a research laboratory; (3) rehabilitate deteriorated roads, dikes, canals, buildings, and equipment in the Refuge System; (4) procurement of vacuum devices for abatement of fish hatchery effluent; and (5) provide for the October 1976 pay raise for civilian employees.

Major Program Changes

(1) Rehab Laboratory building +$750,000

Proposal: To remodel and retrofit the existing Leetown Laboratory to classroom standards for a within-Service training center at Leetown, West Virginia.

Justification: Extensive work is required for the conversion of laboratory rooms and research facilities into classrooms, operational type training facilities for fish culture, and modification of fish rearing ponds and water systems. Costs of remodeling existing structures are estimated to be one-quarter of the funding amount that would be required to erect a new training center.

This program will permit centralization of the current in-Service training program. The use of a single facility will permit consolidation, upgraded and advance facilities will provide rapid response to technological advances, and provide multiple utilization of newly constructed laboratory facilities adjacent to the site. The training to be conducted for Federal, State, private, and international personnel is not available in other educational institutions.

(2) Rehab salt water system +$75,000

Proposal: To replace the existing deteriorated and inadequate salt water supply system, effluent treatment facility, and disinfectant equipment at the Marrowstone Field Station, Nordland, Washington.

Justification: The research conducted at this laboratory is vital to the Fish and Wildlife Service's goal to maintain and enhance salmon fisheries in the Northwest. Research conducted on parr-smolt transformation and seaward migration of juvenile salmonids provides important information useful to improving fish rearing programs which aid in offsetting spawning ground losses due to hydroelectric dams and other water resource development. The existing seawater system is inadequate and does not allow quality control for conducting certain experiments.

(3) Rehab Refuge facilities +$8,005,000

Proposal: To rehabilitate major deteriorated and damaged facilities in the National Wildlife Refuge System, and to bring these facilities within compliance of recent enacted Public Laws and Executive Orders.

Justification: Acute deterioration of roads, buildings, water control structures, habitat, public use facilities and other types of facilities found throughout the Refuge system has occurred as a result of four decades of inadequate funding and staffing to properly maintain the more than 17,000 facilities in the Fish and Wildlife Service, of which approximately 70% are within the Refuge system. Major rehabilitation is required so that visitors are provided a clean, safe, enjoyable experience and that full wildlife benefits are realized from existing facilities. If facilities could be maintained and repaired as they would under a properly funded maintenance system, overall economy in the use of these facilities would be assured and excessive deterioration would be prevented.

At the present time the total backlog need for essential rehabilitation, at the 1976 price index, is $70.1 million. The current funding to reduce this backlog is minimal--only $2.8 million was available for rehabilitation projects in FY 1976 and $4.1 million in FY 1977.

Typical facilities requiring rehabilitation are: water control structures, dikes, levees, dams, and water distribution systems. These types of facilities must be rehabilitated if we are to maintain our current level of waterfowl production totaling 2 million birds. Furthermore, with the continued deterioration of facilities, we stand to lose significant portions of the 1,608 million waterfowl use days currently generated on National Wildlife Refuges. Other types of facilities requiring rehabilitation are: buildings such as offices, shops, and residences. These types of projects are necessary to provide adequate operational support and to meet safety standards.

The restoration of recreational facilities which are used by the visiting public is also required. Projects such as repairing parking lots, boat launching ramps and wildlife drives must be rehabilitated if we are to adequately protect our current level of wildlife-oriented visitor use now estimated at 56 million hours of wildlife-oriented recreational activities.

Approximately 40,000 acres will be planted to rehabilitate waterfowl habitat. Establishing a combination of native grasses will restore areas destroyed by draining of potholes. This will result in a 10 percent increase (approximately 200,000 birds) in waterfowl production in the prairie pothole area alone.

83-561 O - 77 - 28

(4) Pollution Abatement +$300,000

Proposal: To bring the discharge of hatchery effluent within the 1977 compliance standards of P.L. 92-500 and E.O. 11752 at some forty fish hatcheries, utilizing raceway cleaning vacuum devices.

Justification: EPA has established broad pollution abatement standards to be met on July 1, 1977, and July 1, 1983. These 1977 standards are based on "the currently available best technology," and for 1983, they are to be based on zero discharge, or quality of water leaving a facility must equal the quality of water entering a facility.

The current standards of the EPA Regional Offices and the States are inconsistent for fish hatchery effluent, but all generally require the treatment of only raceway cleaning or flushing waters which concentrate settleable solids during this periodic operation. To cope with the interpretation of various standards, alternatives of: vacuuming, sedimentation ponds, mechanical tube settling devices, and special drain and tank storage facilities were analyzed. Without firm guidelines for 1983 standards, the selection of vacuum cleaning devices were considered the most economical, avoiding costly and permanently constructed systems which could require extensive modifications or changes when the 1983 standards are promulgated.

The mobile vacuum equipment consists of pump, hose, tank, and head which removes unused fish food and fish excrement. The slurry is retained in the tank. The sludge which accumulates in the tank is then sprayed over filter beds and dried; removed by commercial carrier to a municipal system; or sprayed locally as a form of soil nourishment. These devices are estimated to cost an average of $7,500 each. They could be all that may be necessary for meeting 1983 standards.

(5) October 1976 Pay Raise +$40,000

Proposal: Increase civilian pay costs.

Justification: The increase is needed to pay increased engineering and clerical support salaries as a result of the October 1976 classified employees pay raise.

National Wildlife Refuge System
Major Rehabilitation Projects

State/Refuge	Program	Project	Purpose	Amount (Thous.)
California:				
Humboldt Bay	MB	Beatrice Flats	Salt Marsh Reclamation	250.0
Kern	MB	Equipment Replacement	Improved Operations	100.0
Sacramento	MB	Colusa Pumps	Irrigation for Waterfowl Food	80.0
Sacramento	MB	Canal No. 26.2	Irrigation for Waterfowl Food	390.0
Salton Sea	MB	Shop-Storage	Improved Operations	195.0
San Luis	MB	Equipment Replacement	Improved Operations	100.0
San Luis	MB	Merced Land Leveling	Waterfowl Food	120.0
Florida:				
Loxahatchee	ES	Dragline Replacement	Dike Maintenance	146.0
Loxahatchee	MB	Headquarters	Improved Operations	103.0
Merritt Island	IR	Wildlife Drive	Public Accommodation	87.0
St. Marks	MB	Shop Replacement	Improved Operations	100.0
J.N. Ding Darling	MB	Water Control Structure	Improved Waterfowl Habitat	315.0
Georgia:				
Blackbeard Island	MB	Flag Pond Dikes	Migratory Bird Habitat	90.0
Okefenokee	IR	Suwannee Canal	Public Access and Tour Route	624.0
Piedmont	MB	Shop-Storage	Operational Effectiveness	100.0
Idaho:				
Deer Flat	MB	Irrigation System	Goose Food	78.0
Kootenai	MB	Headquarters Facilities	Operational Effectiveness	61.0

NWRS Major Rehab Projects

State/Refuge	Program	Projects	Purpose	Amount (Thous.)
Illinois:				
Crab Orchard	IR	Upgrade Water and Sewer Facility	Industrial Water Supply	901.0
Mark Twain	MB	Cannon Levee	Waterfowl Habitat	100.0
Louisiana:				
Sabine	IR	Parking Areas	Public Access	82.0
Michigan:				
Seney	IR	Tour Route	Public Access	144.0
Seney	MB	Unit II Structures	Waterfowl Habitat	66.0
Shiawassee	MB	Heavy Equipment	Dike Maintenance	85.0
Minnesota:				
Agassiz	MB	Road and Trail Rehabilitation	Protecting All Refuge Benefits	140.0
Minnesota Wetlands Complex	MB	Habitat Rehabilitation	Waterfowl Production	422.0
Minnesota Wetlands Complex	MB	Control Structures	Manipulate Water Levels Consistent With Management Objectives	199.0
Tamarac	MB	Road Bridge Repair	Improved Operations	213.0
Upper Mississippi	MB	Rehab Sign Shop	Improved Operations	90.0
Mississippi:				
Noxubee	MB	Rehab of Bluff and Loakfoma Lake Levees and Riprap	Improved Operations	240.0
Missouri:				
Squaw Creek	MB	Main Pool Levee and Outlet Controls	Improved Operations and Water Distribution	65.0

NWRS Major Rehab Projects

State/Refuge	Program	Projects	Purpose	Amount (Thous.)
Montana:				
Benton Lake	MB	Habitat Rehab	Waterfowl Production	20.0
Bowdoin	MB	Habitat Rehab	Waterfowl Production	5.0
Charles M. Russell	MB	Habitat Rehab	Waterfowl Production	100.0
New Mexico:				
Bitter Lake	MB	Rehab Roads, Buildings, Fences	Improved Operations	75.0
Las Vegas	MNB	Upgrade Road Grader and Rehab Tour Route	Improved Operations	71.0
North Dakota:				
Arrowwood Complex	MB	Habitat Rehab	Waterfowl Production	50.0
Audubon	MB	Habitat Rehab	Waterfowl Production	18.0
Des Lacs Complex	MB	Habitat Rehab	Waterfowl Production	90.0
J. Clark Salyer	MB	Habitat Rehab	Waterfowl Production	45.0
Upper Souris	MB	Fence Rehab-All	Basic Protection and Control of Public Use and Grazing	180.0
Upper Souris	MB	Control Structures	Improved Operations	400.0
Oklahoma:				
Optima	MNB	Habitat Restoration	Improved Operations	100.0
Sequoyah	IR	Road and Trails Rehabilitation	Bring Facilities up to Service Standards	125.0
Oregon:				
Sheldon-Hart Mtn.	MNB	Equipment Replacement	Improved Operations	113.0
South Dakota:				
Sand Lake	MB	Habitat Rehab	Waterfowl Production	100.0

NWRS Major Rehab Projects

State/Refuge	Program	Projects	Purpose	Amount (Thous.)
Tennessee:				
Cross Creeks	MB	Rehab of Dikes-S	Habitat and Protection of Migratory Waterfowl	175.0
Texas:				
Laguna Atascosa	MB	Rehab Two Residences	Improved Operations	50.0
Utah:				
Fish Springs	MB	Replacement of Heavy Equipment	Improved Operations	215.0
Virginia				
Dismal Swamp	MB	Control Structures	Waterfowl Habitat	223.0
Washington				
Nisqually	MB	Control Structures	Waterfowl Habitat	71.0
Wisconsin				
Horicon	MB	Moist Soil Unit	Duck Food Production	93.0
				8.005

2. Anadromous Fish: Fiscal year 1977, $3, 513,000; Fiscal year 1978, $3,522,000; increase of $9,000. The increase consists of:

Increase (+) or Decrease (-)		Total	Total	
Amount	Positions	Program	Positions	Explanation
+$9,000	--	$3,522,000	8	October 1976 Pay raise

Major Program Changes

Proposal: Increased civilian pay costs ($9,000).

Justification: The increase is needed to pay increased salaries to administer the anadromous grant program as a result of the October 1976 pay raise.

Program Description

This program was first funded in fiscal year 1967, following passage of the Anadromous Fish Conservation Act of 1965. The goal of this grant-in-aid program is to restore severely depleted anadromous fish stocks and their habitats, to enhance existing anadromous fish populations, and to create new fisheries where possible, for the benefit of sport and commercial fisheries.

The principal species of anadromous fish included in this program are coho and chinook salmon, steelhead trout, striped bass, Atlantic salmon, three species of river herring and American shad.

Non-Federal participants in this program include 29 State fishery agencies, universities and one Indian tribe. Grantees with individual projects receive up to 50 percent federal funding for eligible projects; on multi-state cooperative projects the federal share can be as high as 66 2/3 percent. Project funds can be used for construction, research fish production, operation and maintenance of facilities, coordination and planning.

This program has been both popular and effective. It has aided the States in establishing and upgrading anadromous fish programs. In the Great Lakes area this program has helped the States to establish a world famous and thriving recreational fishing industry. In the Southeast, striped bass hatcheries and rearing ponds built under the program are helping to re-establish a fishery that had virtually disappeared. In the Northwest, assistance has significantly boosted output of Pacific salmon and steelhead through hatchery and rearing pond construction, and research. In the Northeast the Atlantic salmon, which declined to dangerously low levels as a result of dams and pollution, is being restored and promises to produce a new high quality sport fishery.

The cooperative efforts of Connecticut, Massachusetts, Vermont and New Hampshire under a grant to enhance American shad fishing in the Connecticut River have resulted in a record breaking run of 340,000 shad in 1976, a 100 percent increase over the previous year. Research under that multi-state project pointed to the need for fish passage improvements at the Holyoke, Massachusetts, hydropower dam. Construction was subsequently completed by the dam owners and has led to the substantial increase in number of shad passed over the dam.

Completion of Pennsylvania's Fairview Cultural Station has enabled the State to move effectively ahead in establishing and maintaining Pacific salmon in Lake Erie. In excess of 300,000 coho are now being reared at the facility.

North Carolina, as result of research information obtained through this grant program, has helped to obtain restrictions on fishing by Polish vessels off the mid-Atlantic coast. The North Carolina data showed that herring stocks were being severely depleted by the Polish fishing fleet.

A new computer system has been developed in the State of Washington for predicting daily sport, Indian and commercial catches in the Boldt Decision Case Area.

Oregon fishery scientist have developed a new method of innoculating large numbers of fish more efficiently by use of high pressure spray guns. A patent is being applied for.

The estimated dollar value in terms of fishery benefits, both sport and commercial, during the Act's 12-year funding period is $440,600,000. Expenditures during this same period were $24,623,000 (See Table 1).

Table 1

Relationship of Payments to States (FWS) to Benefits

	Federal Funds*	Estimated Angler Days	Estimate of Value of Sportfish Benefits 1/	Estimate of Value of Commercial Fishery Benefits
1967	$ 1,025,000	0	$ 0	$ 0
1968	2,250,000	500,000	3,000,000	0
1969	2,105,000	1,300,000	7,800,000	0
1970	2,105,000	3,000,000	18,000,000	0
1971	2,105,000	3,800,000	22,800,000	0
1972	2,105,000	4,750,000	28,500,000	3,000,000
1973	2,105,000	5,500,000	33,000,000	3,000,000
1974	1,605,000	5,500,000	33,000,000	3,500,000
1975	2,405,000	7,500,000	67,500,000	3,500,000
1976	4,103,000	7,500,000	67,500,000	3,500,000
1977	3,285,000	7,500,000	67,500,000	4,000,000
1978	3,252,000	7,500,000	67,500,000	4,000,000
	$28,450,000	54,350,000	$416,100,000	$24,500,000

*Includes only funds appropriated directly to the Fish and Wildlife Service.

1/ A rate of $6 per day was used, as established in Senate Document 97, Supplement Number 1, through 1974. From 1975 forward a rate of $9 per day was established by the Water Resources Council (see Federal Register, September 10, 1973, p. 2024).

Table 2
Anadromous Fish (P.L. 89-304)
Projects Funded in Fiscal Year 1977 and
Proposed for Fiscal Year 1978

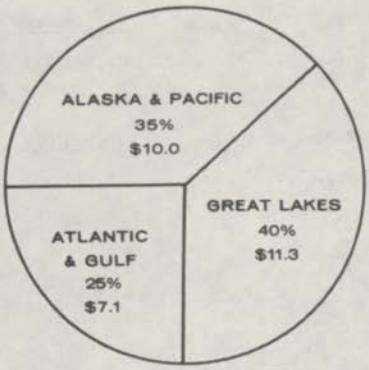
State	Funded F.Y. 1977	Projects	Funded F.Y. 1978
Alabama	$ 20,000	Striped Bass Production and Stocking Experiments	$ 25,000
Alaska	38,300	Southeast King Salmon Investigations	59,000
	39,800	Southeast Alaska Steelhead and Sea-run Cutthroat Trout Investigations	38,600
	59,700	Mendenhall Salmon Rearing Ponds	59,450
	36,400	Russian River Red Salmon Study	19,950
California	85,000	Mad River Hatchery Operations & Maintenance	85,000
	57,000	North Coast Steelhead Study	33,000
	54,000	American Shad Study	66,000
	50,000	Trinity River Anadromous Fish Study	65,000
Connecticut	20,000	Connecticut River Basin Program	25,000
	4,000	Quinebaug-Thames River Study	---
	40,000	Lower Collinsville Dam Removal	---
	40,000	Upper Collinsville Dam Fishway	20,000
Delaware	24,000	Delaware River Basin Anadromous Fishery Studies	24,000
	5,000	Brandywine River Program	5,000
	---	Brandywine River Fishway Repair	20,000
Georgia	28,000	Enhancement of Striped Bass in Ogeechee River	25,000
	5,000	Factors Affecting Rearing of Striped Bass Fingerlings	---
Illinois	10,000	Purchase of Chinook Salmon Smolts	20,000
	---	Assessment of AF Resources	12,500
Indiana	30,000	Kingsbury Trout-Salmon Hatchery	---
	---	Lake Michigan AF Stocking	30,000
	---	Trail Creek Egg Taking Station	25,000
Louisiana	20,000	Striped Bass Production	20,000
Maine	10,000	Penobscot & Narraguagus Rivers Fishway	---
	23,000	Evaluation of Penobscot River Fish Migrations	28,000
	8,000	Union River Operations	---
	25,000	Development of Shad and Smelt Fishery Resources	25,000
	7,500	Eval. at Sal. Spawning Sites & Winter Habitat	8,000
	10,000	Update Survey of Coastal Atlantic Salmon Rivers	---
	3,000	Fishway Feasibility at Selected Rivers	---
	5,000	Develop Smolt Release Ponds	---
Massachusetts	26,000	Connecticut River Basin Anadromous Fishery Studies	26,000
	3,000	Southeastern Massachusetts Shad Study	---
	18,000	Anadromous Fisheries Development	---
	11,000	Merrimack River Basin Restoration Program	11,000
Michigan	150,000	Production Anadromous Salmonids	130,000
	44,000	Rifle River Fish Ladder Lamprey Barrier	---
	25,000	Pine River, Losco, Fish Ladder Lamprey Barrier	---

State	Funded F.Y. 1977	Projects	Funded F.Y. 1978
Michigan	$ 20,000	Whitney Drain (Au Gres River) Fish Ladder and Lamprey Barrier	---
	22,000	Grand River Lyons Dam Fish Ladder	22,000
	14,500	St. Joseph River Buchanon Dam Fish Ladder	25,000
	6,000	Muskegon River Walleye Ponds	---
	---	Big Manistee River System - Stronach, and Tippy Dams Fishways & Traps	49,000
	---	Little Manistee River Fish Ladder	9,000
	---	Pere Marquettee R. Fish Ladder and Lamprey Barrier	47,500
	---	Pinnebog River Imprinting Pond	22,500
	---	Rapid River Fish Ladder & Lamprey Barrier	7,500
	---	Huron River, Flat Rock, Fish Ladder & Lamprey Barrier	1,000
	---	Milakokia River Fish Ladder & Lamprey B.	2,000
	---	Brevort River Fish Ladder & Lamprey Barrier	500
	---	Black River, Mackinaw, Fish Ladder & Lamprey Barrier	1,000
	---	Hog Island Creek Fish Ladder & Lamprey Barrier	800
Minnesota	25,000	Improvement of Sportfishing for Anadromous Species	45,000
	65,300	French River Hatchery	---
	---	French River Hatchery Operations and Maintenance	40,000
Mississippi	17,500	Striped Bass Rearing & Stocking Program	17,500
New Hampshire	10,300	Conn. R. Basin Anadromous Fish Studies	20,000
	4,600	Coho Salmon Introduction	6,000
	3,400	Merrimack River Basin Restoration Program	11,600
New Jersey	13,000	Delaware River Basin Anadromous Fishery Studies	13,000
	6,000	Shad Study Raritan River	6,500
New York	40,000	Anadromous Fish Enhancement in Lake Ontario	27,600
	12,400	Fish and Wildlife Management Act Coordination	9,900
	11,000	Delaware River Basin Anadromous Fishery Studies	18,000
	632,800	Anadromous Trout and Salmon Hatchery Development	400,000
North Carolina	30,000	Anadromous Fisheries Research, No. Coast Area	38,500
	42,500	Anadromous Fisheries Research, Cape Fear River System	14,000
	15,000	Anadromous Fisheries Research - Neuse River	14,500
	---	Coop. Management of Striped Bass	30,500
Ohio	---	Anadromous Fish Production and Stocking	42,500
Oregon	10,000	Logging Effects on Cutthroat Trout	---
	35,000	Salmon Streamflow Requirements	37,200
	11,000	Nehalem River Steelhead Study	---
	40,000	Vibrio Immunization Study	21,000
	33,000	Genetic Study of Anadromous Salmonids	39,000
	25,000	Butte Falls Waste Treatment Pond	36,700
	25,000	Design of Coastal Hatchery	---
	---	Biometrics	8,400
	---	Smolt Study	54,000
	---	Hatchery Improvements	54,500
Pennsylvania	33,800	Delaware River Basin Anadromous Fishery Studies	20,000
	1,900	Brandywine River Program	1,000

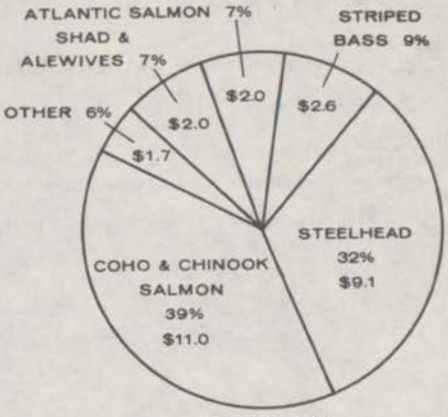
State	Funded F.Y. 1977		Funded F.Y. 1978
Pennsylvania	80,000	Lake Erie Salmon Program	88,800
	5,000	Shad Restoration Proj. Schuylkill Lehigh River	5,000
	---	Improve Existing Holding Facilities	50,000
South Carolina	36,500	Detailed Studies of the Santee and Cooper Rivers	44,000
	50,000	Striped Bass Rearing & Stocking	45,000
Vermont	6,800	Connecticut River Basin Studies	6,800
Washington	117,000	Operation and Maintenance of Anadromous Fish Ponds	128,000
	66,500	Development of Anadromous Fish Catch Record System	54,500
	100,000	Green River Rearing Pond No. 2	---
	203,000	Johns Creek Rearing Ponds	---
	87,500	Bear Springs Rearing Pond	---
	---	Nisqually Fisheries Enhancement	42,500
	---	Development of Fish Counter	50,000
	---	Fisheries Enhancement - Hoh Indian Tribe	20,400
	---	Cedar River Sockeye Spawning & Rearing	256,800
Wisconsin	292,000	Anadromous Fisheries Enhancement	290,000
	---	Sea Lamprey Barrier	50,000
Total	$3,285,000		$3,252,000

UNITED STATES FISH AND WILDLIFE SERVICE

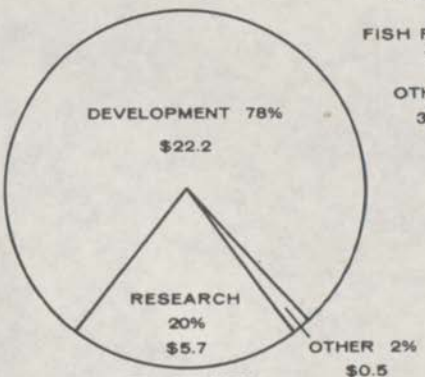
ANADROMOUS FISH CONSERVATION PROGRAM
EXPENDITURES F.Y. 1967 THRU 1978
SHOWN IN MILLIONS -- $28.4 MILLION TOTAL



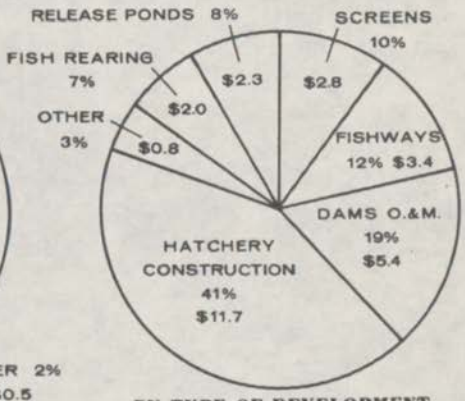
BY GEOGRAPHIC AREA



BY SPECIES



BY ACTIVITY



BY TYPE OF DEVELOPMENT

FWS-135

FISH AND WILDLIFE SERVICE

Migratory Bird Conservation Account

Advance appropriation, 1977	$4,000,000
Estimated receipts, 1977	12,000,000
Unobligated balance from prior years	548,042
Total available for obligation	16,548,042
Decreases	
Advance appropriation and unobligated balances	-4,548,042
Subtotal	12,000,000
Increases	
Receipts	
Proposed legislation to increase the price of duck stamp	10,000,000
Budget Estimate, 1978	22,000,000

Migratory Bird Conservation Account

Analysis by Activities

Activity/Subactivity	Appropriation 1976	Appropriation 1977	Permanent Positions	1978 Budget Estimate	Permanent Positions	Budget Estimate 1978 compared with Appropriation 1977	Permanent Positions	Page Ref.
1. Printing and sale of hunting stamps	431,000	475,000		500,000		25,000		
2. Acquisition of refuges and other areas								
Advance appropriation.....	7,500,000	4,000,000		....		-4,000,000		
Receipts	13,499,000	11,525,000	150	21,500,000	150	9,975,000	--	FWS-138
Unobligated balance brought forward	439,177	548,042		....		-548,042		
Obligation program	19,145,960	16,548,042		22,000,000		5,451,958		
Unobligated balance carried forward	2,723,217	....		....		....	--	
Total appropriation	21,430,000	16,000,000	150	22,000,000	150	6,000,000	--	
Total unobligated balance brought forward	439,177	548,042**		....		-548,042		
Total obligational program	19,145,960	16,548,042		22,000,000		5,451,958		
Total unobligated balance carried forward	2,723,217*	....		....		....		

* Unobligated balance carried into the transition quarter.
** Unobligated balance carried from the transition quarter.

U. S. FISH AND WILDLIFE SERVICE
MIGRATORY BIRD CONSERVATION ACCOUNT

Acquisition of refuges and waterfowl production areas: Fiscal year 1977, $16,000,000; Fiscal year 1978, $22,000,000; increase of $6,000,000.

	Budget Authority FY 1976	Budget Authority FY 1977	Estimate FY 1978	FY 1978 Changes
Advance (Current definite)	$ 7,500,000	$ 4,000,000	$ --	-$ 4,000,000
Duck Stamp Receipts (Permanent indefinite)	13,930,000	12,000,000	22,000,000	+10,000,000
	$21,430,000	$16,000,000	$22,000,000	+$6,000,000

Program Synopsis

The objective of the Service's current accelerated land acquisition program carried out with funds from the Migratory Bird Conservation Account is to preserve those habitats, primarily wetlands, most important to the maintenance of existing waterfowl populations and other migratory bird species in the United States. Emphasis is on habitats most important to the waterfowl resource (i.e., breeding and wintering) and threatened with near-term loss if not acquired by the Service. The program is nationwide in scope. Authorities for acquisition include Migratory Bird Hunting Stamp Act, as amended (16 U.S.C. 718d), and Migratory Bird Conservation Act of 1929, as amended (16 U.S.C. 715-715S).

Based on an evaluation of the ongoing program completed in 1975, new acquisition objectives, policies and priorities have been developed. New objectives are to acquire, in fee and less than fee interest, approximately 1.9 million acres of key waterfowl breeding and wintering habitat, with minor purchases of selected refuge inholdings, during the period FY 1977-86. The acquisition period may need to be extended through FY 1991 depending on fund availability. Achievement of this acquisition objective is expected to maintain habitat required by more than 50 percent of the current U.S. waterfowl production, excluding Alaska, that is not currently protected in public ownership and prevent loss of approximately 10 percent of the current average post-breeding season population of waterfowl. The estimated program cost at 1975 land values is $410 million.

In accordance with the President's message at the signing of the Wetland Loan Extension Act on February 17, 1976, the Service has proposed legislation that would allow the Secretary of Interior to set the price of Duck Stamps, based on land values and other program costs. This legislation would also require hunters of all ages to possess a valid duck stamp while hunting waterfowl.

Projected duck stamp revenues of $22 million in FY 1978 are based on expected receipts from stamps priced at $10 rather than the current $5. The increased stamp price would be partially influenced by the National Index of Average Values of Farm Real Estate, which closely reflects changes in values of migratory bird habitat purchased through the Service's acquisition program. The proposal to effect such a system was made by the Administration at the signing of P.L. 94-215, the "Wetland Loan Extension Act of 1976. The proposed increase to $10 is based on increases in the national index since FY 1973 when

the stamp price was increased to $5. The effects of inflation without compensation adjustments in funding have impacted significantly on achievement of acquisition program objectives. The national index of farm real estate values has increased 248% since the Service's accelerated acquisition program began in FY 1962. During the same period, the average annual funding for the program increased by 44%. The average price paid per acre for refuges and Waterfowl Production Areas increased 228% and 700%, respectively, between FY 1962 and FY 1975. The national rural land price index has increased an average of 16% annually since 1973, with even greater increases in regions where our program is most active such as the northcentral States where the average annual increase since 1973 was approximately 25%. The legislative proposal to allow the Secretary to set the price on the stamp, if enacted, will establish a mechanism that can automatically adjust stamp revenues to changing land values. Such a system will provide additional funds needed to achieve program objectives.

Major Program Changes	Increases	Total Program
Acquisition of Refuges and waterfowl production areas	+ $6,000,000	$22,000,000
	+ 0 positions;	Total 150

Proposal

Full implementation of new objectives, priorities and policies for the migratory bird habitat preservation program is planned for FY 1978, with FY 1977 being a transition year. The major thrust of the $22 million in FY 1978 will be to continue in accordance with established priorities the current high level of WPA acquisition and expand acquisition efforts in key wintering areas that are threatened with destruction. (See Figure 1)

A minimum acreage of inholdings on lower priority refuges will also be acquired to prevent loss of habitat and/or alleviate management problems. Allocations of the FY 78 request is shown below:

Habitat Priority	Habitat Type & Location	Acres	Cost ($000)
1, 2	WPA Central Flyway Breeding (ND, SD, MT)	14,300 F [1/] 28,000 E [1/]	$ 3,600 3,500
3	WPA Mississippi Flyway Breeding (MN)	7,000 F 2,000 E	3,100 500
4	California Central Valley Wintering	3,000	600
5	Atlantic Coast Black Duck Wintering (DE, NJ, NY, MA)	512	475
6	California Coastal Wintering	-	-
7	Miss. Delta Bottomland Wintering (AR, LA, MS, Tn)	7,500	1,500
	Subtotal	62,312	13,275

83-561 O - 77 - 29

Habitat Priority	Habitat Type & Location	Acres	Cost ($000)
8	Texas Coastal Wintering	2,700	$ 330
9	Central Gulf Coastal Wintering (LA, AL)	-	-
10	Great Basin Redhead Breeding (ID, NV, Ut)	315	140
11	Miss. Flyway Outside Pothole Region Breeding (WPA) (WI)	2,000	500
12	Atlantic-Eastern Gulf Coast Wintering (DE, MD, VA, NC, SC, GA, FL)	400	200
13	Central Flyway Outside Pothole Region Breeding (CO, NB)	790	350
14	Washington Coastal Wintering	506	205
15	Oregon Coastal Wintering	-	-
	Commitments and Other Refuges Inholdings	700	500
	Incidental Acquisition Costs	-	6,500
	TOTAL	69,723	$22,000

1/ F - fee; E - easement

Justification

Migratory birds are an international resource for which the Federal Government, through the Fish and Wildlife Service, has primary responsibility for protection and management. An analysis of waterfowl habitat preservation needs completed by the Service in 1975 concluded that at least 1.9 million acres of habitat will need to be preserved by Service acquisition over the next 10-15 years to achieve migratory bird program objectives of maintaining current waterfowl population levels and distribution.

The report emphasized the necessity to preserve the most important and intensively used waterfowl breeding and wintering areas most critical to maintenance of each species and population. In the context of this emphasis, waterfowl land acquisition is high priority since habitat destruction is, for practical purposes, irreversible. Delay will result in permanent and significant habitat reductions and subsequent declines in waterfowl populations as well as other wetland-dependent migratory bird species.

Virtually all major breeding and wintering habitats in the United States are under substantial threats of destruction. The Migratory Bird Habitat Preservation Study indicates that in excess of 300,000 acres of highly productive wetlands, the key component of waterfowl habitat had been destroyed or significantly altered annually in recent years. An ongoing State-Federal Waterfowl Habitat Reconnaissance reaffirms this loss rate in key breeding and wintering habitats.

The most serious near-term losses of high quality waterfowl habitat are expected to occur in: (1) the glaciated prairie pothole region (up to 60,000 acres per year), (2) lower Mississippi River floodplain, (75,000 acres per year), (3) certain coastal areas, (4) breeding habitats outside the prairie pothole region and (5) California's Central Valley where critical water supply problems, land use conversion and overcrowding of waterfowl have resulted in heavy disease mortality and crop depredation problems. Acquisition of essential habitat is necessary to aid in these situat'ons and prevent further habitat loss.

Improved coordination of land acquisition with other habitat preservation methods will be emphasized. However, in many areas, especially inland, non-navigable waters, there is no regulation of wetland drainage; it is even encouraged in many instances. Even where wetland destruction is regulated, such as in coastal wetlands, substantial losses continue in certain key wintering areas. Service acquisition remains as the only alternative for protecting these habitats.

Accomplishments

A comparison of program accomplishments during the years FY 1974-1976 and estimates for FY 1977-1978 is shown in the following summary:

Summary of MBCA Land Acquisition Accomplishments, FY 1974-1978

	Fiscal Year				
	1974	1975	1976	1977 (Est.)	1978 (Est.)
Refuges (Acres)	22,000	4,000	27,000	8,300	16,400
WPA (Acres)					
Fee	14,000	18,000	26,000	16,000	23,300
Easement	57,000	35,000	26,000	26,000	30,000
Total (Acres)	93,000	57,000	79,000	50,300	69,700
Budget Authority ($000)	$13,700	$12,100	$21,430	$16,000	$22,000

Benefits

Waterfowl and other wetland-dependent migratory birds benefit both consumptive and non-consumptive users as well as the public in general. Wetlands and other waterfowl habitats preserved also provide numerous other benefits to society in general such as production of other wildlife and commercial fisheries, flood control, groundwater recharge, storm buffers, and aesthetically pleasing natural areas.

Primary benefits derived from the MBCA acquisition program can be categorized as general species stewardship, conservation and recreation. Stewardship responsibilities of the Federal Government for maintenance and protection of migratory birds are emphasized through protection of habitats critical to perpetuation of species and populations. Although a substantial secondary benefit, on-site public use of migratory birds is not a primary justification for MBCA acquisition. Direct beneficiaries are approximately 2.8 million waterfowl hunters and 8-10 million birdwatchers.

MIGRATORY BIRD CONSERVATION ACCOUNT

FIGURE 1 -- LOCATION OF HIGH PRIORITY LAND ACQUISITION CATEGORIES

FWS-142

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, 81 Stat. 612), $4,000,000, to remain available until expended.]

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
MIGRATORY BIRD CONSERVATION ACCOUNT
(PERMANENT, INDEFINITE, SPECIAL FUND)
Program and Financing (in thousands of dollars)

STANDARD FORM 300-T
June 1975, Office of Management and Budget Circular No. A-11, Revised.

Identification code 14-5137-0-2-303	19 76 actual	19 TQ	19 77 estimate	1978 estimate
Program by activities:				
1. Printing and sale of hunting stamps	431	....	475	500
2. Acquisition of refuges and other areas	17,066	8,387	14,275	11,500
Total program costs, funded	17,497	8,387	14,750	12,000
Change in selected resources (undelivered orders)	1,649	-3,698	1,798	....
10.00 Total obligations	19,146	4,689	16,548	12,000
Financing:				
21.00 Unobligated balance available, start of year	-439	-2,723	-548	....
24.00 Unobligated balance available, end of year	2,723	548	....	....
Budget authority	21,430	2,514	16,000	12,000
Budget authority:				
40.00 Current appropriation (general fund)	7,500	....	4,000	....
60.00 Permanent appropriation (indefinite, special fund)	13,930	2,514	12,000	12,000
Relation of obligations to outlays:				
71.00 Obligations incurred, net	19,146	4,689	16,548	12,000
72.00 Obligated balance, start of year	3,400	6,531	4,930	6,728
74.00 Obligated balance, end of year	-6,531	-4,930	-6,728	-6,728
90.00 Outlays	16,015	6,290	14,750	12,000
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

Type size:
178 M6/22

STANDARD FORM 304-T
June 1975, Office of Management and Budget Circular No. A-11, Revised.
304-103T

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	19 76 actual	19 TQ	19 77 estimate	19 78 estimate
Personnel compensation:				
11.1 Permanent positions	2,252	576	2,415	2,578
11.3 Positions other than permanent	186	51	190	194
11.5 Other personnel compensation	27	7	26	30
~~11.8 Special personal services payments~~				
Total personnel compensation	2,465	634	2,631	2,802
Personnel benefits:				
12.1 Civilian	267	67	276	294
~~13.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons	290	69	336	395
22.0 Transportation of things	21	18	21	43
23.2 Other rent,comm.&utilities	63	24	62	129
24.0 Printing and reproduction	450	111	440	923
25.0 Other services	937	233	916	1,921
26.0 Supplies and materials	76	46	74	156
31.0 Equipment	84	22	82	172
32.0 Lands and structures	12,787	7,163	9,869	5,075
~~33.0 Investments and loans~~				
41.0 Grants, subsidies, and contributions	44	....	43	90
42.0 Insurance claims and indemnities	13	....	....	....
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
Total costs, funded	17,497	8,387	14,750	12,000
Change in selected resources	1,649	-3,698	1,798	....
99.0 Total obligations	19,146	4,689	16,548	12,000
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

STANDARD FORM 300–T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
MIGRATORY BIRD CONSERVATION ACCOUNT
PERSONNEL SUMMARY

Identification code 14-5137-0-2-303	1976 actual	19TQ	1977 estimate	1978 estimate
Total number of permanent positions	150		152	152
Full-time equivalent of other positions	19		19	19
Average paid employment	165		169	169
Average GS grade	9.62		9.68	9.74
Average GS salary	$17,531		$18,402	$18,412
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

Fish and Wildlife Service

Development and Operation
of Recreational Facilities

Fiscal Year 1977, -0-; Fiscal Year 1978, $150,000, an increase of $150,000.
No positions.

Proposal

A disbursing account will be established to spend receipts collected in the Fish and Wildlife Service's Special Recreation Fee receipt account (Treasury Symbol 5028) to expand public recreational benefits.

Justification

Public Law 93-303 (16 U.S.C. 460ℓ-6 through 460ℓ-11) further amended the Land and Water Conservation Act of 1965 to specify that each Federal agency administering or providing specialized outdoor recreation sites, facilities, equipment or services shall charge special recreation user fees if certain criteria are met. Even though the Fish and Wildlife Service is required to collect special recreation user fees, no funds have been appropriated to further the purposes of Section 4f of the Land and Water Conservation Act, 16 U.S.C. 460ℓ-69(f) as amended. The revenues in the special receipt account are available, without predjudice to appropriations from other sources for the same purposes for any authorized outdoor recreation function of the agency by which the fees were collected.

The establishment of the disbursing account would provide funds to support increased collections of required special recreation fees at areas where fees are not now charged by supplying the funds necessary to institute charging and by providing funding for minor facilities or services required to qualify existing recreational areas for special recreational user fee collections. In time the gradual increases in recreational facilities provided for by this account will support increased public recreational use which in turn will provide increased fee collections. These increased fee collections can provide for an expansion of public recreational benefits without increasing general appropriations.

The Fish and Wildlife Service has implemented the fee program on seven areas. It is expected that this program will approach $150,000 for fiscal year 1978. Current plans are to expand this program in fiscal year 1978 to other Service areas. As of November 30, 1976, a total of $52,394 has been deposited in the Special Recreation Use Fee Account.

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

DEVELOPMENT AND OPERATION OF RECREATION FACILITIES

For construction, operation and maintenance of outdoor recreation facilities, including collection of special recreation use fees to remain available until expended, $150,000, to be derived from the special receipt account established by Sec. 4(f) of the Land and Water Conservation Act, 16 U.S.C. 560l -6a(f), as amended.

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

STANDARD FORM 300-T
June 1978, Office of Management and Budget Circular No. A-11, Revised.

DEVELOPMENT AND OPERATION OF RECREATION FACILITIES
Program and financing (in thousands of dollars)

Identification code 14-5028-0-2-303	19 actual	19	19 estimate	19 78 estimate
Program by activities:				
Development and operation of recreation facilities				150
10.00 Total obligations				150
Financing:				
40.00 Budget authority (appropriation)(definite, special fund)				150
Relation of obligations to outlays:				
71.00 Obligations incurred, net.				150
74.00 Obligated balance, end of year				....
90.00 Outlays				150
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

Type size:
17½ M6/22

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

DEPARTMENT OF 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 actual	19	19 estimate	19 78 estimate
Personnel compensation:				
11.1 Permanent positions				40
11.3 Positions other than permanent				20
11.5 Other personnel compensation				3
~~11.8 Special personal services payments~~				
Total personnel compensation				63
Personnel benefits:				
12.1 Civilian				5
~~13.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons				1
22.0 Transportation of things				1
23.2 Other rent,comm.&utilities				2
24.0 Printing and reproduction				1
25.0 Other services				27
26.0 Supplies and materials				30
31.0 Equipment				15
32.0 Lands and structures				5
~~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 Total obligations				150
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

FWS-148

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
DEVELOPMENT AND OPERATION OF RECREATION FACILITIES

Identification code 14-5028-0-2-303	19 actual	19	19 estimate	1978 estimate
Total number of permanent positions				--
Full-time equivalent of other positions				2
Average paid employment				4
Average GS grade				9.74
Average GS salary				$18,412
(Memo cost: 22.13)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5)

DEPARTMENT OF THE INTERIOR

U.S. FISH AND WILDLIFE SERVICE

ADMINISTRATIVE PROVISIONS

Explanation of Language Changes

Passenger Motor Vehicles

The Fish and Wildlife Service 1978 estimates include a request for the purchase of 185 passenger motor vehicles, 144 of which are for replacement as follows:

	Replacement	Additions	Total Requested
Motor vehicles:			
Police-type automobiles	84	18	102
Standard-type automobiles	31	6	37
Total automobiles	115	24	139
Station wagons	29	17	46
Total	144	41	185

All of the vehicles to be replaced will meet the age 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 115 replacement vehicles, 84 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 of 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 needed 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 the 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 GSA.

The 31 replacements of standard-type vehicles and 29 station wagons are for various Service programs and will provide safe and economical transportation in areas not serviced by motor pools.

Of the 37 standard-type vehicles requested, 6 are additions to the fleet. Five (5) vehicles will be used for transportation of personnel engaged in migratory bird management activities at Crab Orchard refuge, Illinois (2); Fergus Falls Wetland Management District, Minnesota (1); Big Stone Wetland Management Area, Minnesota (1); and Tamarac Wetland Management Area, Minnesota (1). One (1) vehicle is needed for the inland fish program at Wellsboro, Pennsylvania.

The 18 additions to the fleet of police-type automobiles are for expanded law enforcement activities primarily related to enforcement of migratory bird laws and the Marine Mammal Protection Act. These vehicles will be headquarted at San Francisco, California (1); Los Angeles, California (1); Brownsville, Texas (1); Houston, Texas (1); St. Paul, Minnesota (1); Detroit, Michigan (1); New Orleans, Louisiana (3); Raleigh, North Carolina (1); Atlanta, Georgia (1); Baltimore, Maryland (1); Falls Church, Virginia (1); New York, New York (1); Watertown, South Dakota (1); St. Louis, Missouri (1); Denver, Colorado (1); and Pembina-Noyes, North Dakota (1).

Of the 46 station wagons requested, 17 are additions to the fleet. Thirteen (13) of the additions will be used to equip personnel engaged in migratory bird management activities and will be headquartered at Bosque del Apache, New Mexico (1); Agassiz, Minnesota (1); Horicon, Wisconsin (1); Muscatatuck, Indiana (1); Necedah, Wisconsin (1); Rice Lake, Minnesota (1); Seney, Michigan (1); Shiawassee, Michigan (1); Sherburne, Minnesota (1); Ottawa, Ohio (1); Tamarac, Minnesota (1); Rachel Carson, Maine (1); and Platte River, Nebraska (1). Three of the additions will be used in fishery programs headquartered at Oswego, New York (1); Leetown, West Virginia (1); and Juneau, Alaska (1). One vehicle will be used in the interpretation and recreation program at Philadelphia, Pennsylvania (1).

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 185 motor vehicles will permit maintenance of the Service fleet on an economical and safe basis, in accordance with replacement standards established by the General Services Administration.

Aircraft

Fiscal year 1978 estimates include purchase authority for four replacement aircraft. These units are needed to replace older aircraft which have sustained high use and have reached the age where safety and economy of operation becomes a major concern. The replacement aircraft will be used in the migratory bird management and animal damage control program, headquartered at Lafayette, Louisiana; Lexington Park, Maryland; Minneapolis, Minnesota; and Albuquerque, New Mexico.

Aircraft are used for waterfowl surveys; game law enforcement patrols; flying migratory and non-migratory bird surveys; refuge management including plant control, seeding of waterfowl feeds, and predator control work.

Fish and wildlife activities and operations are performed largely in areas where transportation facilities and roads are inadequate, making it necessary to reply on aircraft and boats.

All Service aircraft are piloted by U.S. special agents, biologists, refuge managers, and in 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.

Type size: 8 point 14½ picas Fol. lit. solid

STANDARD FORM 306
July 1968, Bureau of the Budget Circular No. A-11, Revised.
306-109

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

	1976 actual	1977 estimate	1978 estimate
Executive Level V	1	1	1
Subtotal	1	1	1
GS-18	1	1	1
GS-17	2	2	2
GS-16	16	16	16
GS-15	49	51	60
GS-14	256	263	291
GS-13	398	411	440
GS-12	646	684	739
GS-11	733	803	898
GS-10	1	1	1
GS-9	564	630	732
GS-8	27	27	27
GS-7	456	481	545
GS-6	280	281	282
GS-5	407	404	424
GS-4	139	140	144
GS-3	20	20	21
GS-2	2	2	2
Subtotal	3,998	4,218	4,626
Ungraded	466	493	537
Total permanent positions	4,464	4,711	5,163
Unfilled positions, June 30	-253	-266	-291
Total permanent employment, end of year	4,211	4,445	4,872
	(Mono cost: 16.3)	(Mono cost: 4.9)	(Mono cost: 4.9)	(Mono cost: 4)

GPO: 1969 O - 353-453

U.S. FISH AND WILDLIFE SERVICE FIELD STATION FUNDING

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
ALABAMA			
FISH HATCHERIES			
CARBON HILL	57,000	61,000	4,000
WILDLIFE REFUGES			
CHOCTAW	75,000	95,000	20,000
EUFAULA	164,000	118,000	46,000-
WHEELER	185,000	240,000	55,000
ECOLOGICAL SERVICES OFFICE			
DECATUR	60,000	60,000	
FISHERY RESEARCH			
SOUTHEASTERN FISH CULT LAB	354,000	415,000	61,000
COOPERATIVE FISHERY UNITS			
AUBURN UNIV	57,000	57,000	
COOPERATIVE WILDLIFE UNITS			
AUBURN UNIV	58,000	58,000	
STATE TOTAL	1,010,000	1,104,000	94,000
ALASKA			
FISHERY SERVICES			
KENAI	104,000	104,000	
KETCHIKAN	99,000	99,000	
WILDLIFE REFUGES			
ALEUTION	377,000	560,000	183,000
ARCTIC	179,000	256,000	77,000
CLARENCE RHODE	241,000	330,000	89,000
IZEMBEK	115,000	190,000	75,000
KENAI	446,000	677,000	231,000
KODIAK	158,000	248,000	90,000
RESOURCE PLANNING(ANCSA)	535,000	535,000	
LAW ENFORCEMENT OFFICE			
ANCHORAGE	192,000	192,000	
ANCHORAGE	105,000	105,000	
FAIRBANKS	110,000	110,000	
COOPERATIVE WILDLIFE UNITS			
UNIV OF ALASKA	79,000	79,000	
MIGRATORY BIRD MANAGEMENT			
EAGLE MGMT STUDIES JUNEAU	103,000	103,000	
WATERFOWL SURVEYS JUNEAU	65,000	65,000	
ECOLOGICAL SERVICES OFFICE	1,348,000	1,403,000	55,000
STATE TOTAL	4,256,000	5,056,000	800,000

83-561 O - 77 - 30

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
ARIZONA			
	24,000	24,000	
FISH HATCHERIES			
ALCHESAY	273,000	298,000	25,000
FISHERY SERVICES			
PARKER	41,000	41,000	
PINETOP	67,000	67,000	
WILDLIFE REFUGES			
CIBOLA	71,000	112,000	41,000
HAVASU	179,000	273,000	94,000
IMPERIAL	92,000	166,000	74,000
KOFA GAME RANGE	148,000	219,000	71,000
CABEZA PRIETA GAME RANGE	97,000	51,000	46,000-
LAW ENFORCEMENT OFFICE			
PHOENIX	119,000	119,000	
ECOLOGICAL SERVICES OFFICE			
PHOENIX	52,000	52,000	
ANIMAL DAMAGE CONTROL			
PHOENIX	197,000	257,000	60,000
COOPERATIVE FISHERY UNITS			
UNIV OF ARIZONA	57,000	57,000	
COOPERATIVE WILDLIFE UNITS			
UNIV OF ARIZONA	61,000	61,000	
STATE TOTAL	1,478,000	1,797,000	319,000
ARKANSAS			
FISH HATCHERIES			
CORNING	67,000	75,000	8,000
GREERS FERRY	125,000	132,000	7,000
HEBER SPRINGS BIOLOGIST	35,000	36,000	1,000
MAMMOTH SPRINGS	87,000	95,000	8,000
NORFORK	282,000	329,000	47,000
WILDLIFE REFUGES			
BIG LAKE	71,000	105,000	34,000
FELSENTHAL		154,000	154,000
HOLLA BEND	90,000	119,000	29,000
WAPANOCCA	70,000	109,000	39,000
WHITE RIVER	155,000	210,000	55,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
ARKANSAS			
LAW ENFORCEMENT OFFICE			
LITTLE ROCK	85,000	85,000	
ANIMAL DAMAGE CONTROL			
LITTLE ROCK	61,000	61,000	
FISHERY RESEARCH			
FISH FARMING EXP STATION	273,000	318,000	45,000
NATL RESERVOIR RES PROGRAM	958,000	958,000	
STATE TOTAL	2,359,000	2,786,000	427,000
CALIFORNIA			
FISH HATCHERIES			
COLEMAN NFH	480,000	587,000	107,000
TEHAMA COLUSA FISH FACIL	331,000	366,000	35,000
WILDLIFE REFUGES			
HUMBOLT BAY	50,000	75,000	25,000
KERN	239,000	297,000	58,000
SACRAMENTO	529,000	774,000	245,000
SALTON SEA	244,000	239,000	5,000-
SAN FRANCISCO BAY	167,000	276,000	109,000
SAN LUIS	312,000	412,000	100,000
KLAMATH BASIN	524,000	629,000	105,000
LAW ENFORCEMENT OFFICE			
SACRAMENTO	50,000	50,000	
SACRAMENTO	201,000	201,000	
SAN FRANCISCO	287,000	287,000	
LOS ANGELES	206,000	206,000	
ECOLOGICAL SERVICES OFFICE			
SACRAMENTO	248,000	248,000	
LAGUNA NIGUEL	61,000	61,000	
ANIMAL DAMAGE CONTROL			
SACRAMENTO STATE OFFICE	410,000	518,000	108,000
COOPERATIVE FISHERY UNITS			
HUMBOLDT STATE	58,000	58,000	
STATE TOTAL	4,397,000	5,284,000	887,000
COLORADO			
FISH HATCHERIES			
HOTCHKISS	141,000	141,000	
LEADVILLE	142,000	142,000	

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
COLORADO			
WILDLIFE REFUGES			
ALAMOSA	73,000	120,000	47,000
ARAPAHO	86,000	122,000	36,000
MONTE VISTA	169,000	256,000	87,000
BROWNS PARK	2,000	46,000	44,000
LAW ENFORCEMENT OFFICE			
DENVER	111,000	111,000	
ANIMAL DAMAGE CONTROL			
DENVER	32,000	32,000	
FISHERY RESEARCH			
FT MORGAN FISH DISEASE	106,000	106,000	
COOPERATIVE FISHERY UNITS			
COLORADO STATE UNIV	57,000	57,000	
COOPERATIVE WILDLIFE UNITS			
COLORADO STATE	51,000	51,000	
WILDLIFE RESEARCH			
FT COLLINS EDITORIAL OFC	353,000	354,000	1,000
DENVER WL RSRCH CNTR	4,094,000	4,158,000	64,000
BIOL SERVICES NATL TEAM			
NATL ENERGY/LAND USE TM	698,000	698,000	
STATE TOTAL	6,115,000	6,394,000	279,000
DELAWARE			
WILDLIFE REFUGES			
BOMBAY HOOK	169,000	177,000	8,000
PRIME HOOK	61,000	81,000	20,000
STATE TOTAL	230,000	258,000	28,000
DISTRICT OF COLUMBIA			
FISH HATCHERIES			
NATIONAL AQUARIUM	200,000	200,000	
WILDLIFE RESEARCH			
NATL FISH&WILDLIFE LAB	1,302,000	1,392,000	90,000
STATE TOTAL	1,502,000	1,592,000	90,000
FLORIDA			
FISH HATCHERIES			
WELAKA	140,000	171,000	31,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
FLORIDA			
FISHERY SERVICES			
APALACHICOLA RIVER PROJECT	115,000	112,000	3,000-
PANAMA CITY	41,000	41,000	
WILDLIFE REFUGES			
CHASSAHOWITZKA	53,000	77,000	24,000
HOBE SOUND	44,000	58,000	14,000
JN'DING' DARLING	91,000	111,000	20,000
LAKE WOODRUFF	54,000	101,000	47,000
LOXAHATCHEE	215,000	337,000	122,000
MERRITT ISLAND	182,000	222,000	40,000
NATIONAL KEY DEER	66,000	93,000	27,000
PELICAN ISLAND	24,000	30,000	6,000
ST JOHNS	61,000	61,000	
ST MARKS	224,000	264,000	40,000
ST VINCENT	79,000	109,000	30,000
BIOLOGIST TALLAHASSEE	30,000	30,000	
LAW ENFORCEMENT OFFICE			
TALLAHASSEE	161,000	161,000	
MIAMI	118,000	118,000	
ECOLOGICAL SERVICES OFFICE			
PANAMA CITY	80,000	80,000	
VERO BEACH	180,000	180,000	
GAINESVILLE FL	33,000	33,000	
ANIMAL DAMAGE CONTROL			
GAINESVILLE	31,000	31,000	
COASTAL ECOSYSTEMS TEAM			
PANAMA CITY	38,000	38,000	
STATE TOTAL	2,060,000	2,458,000	398,000
GEORGIA			
FISH HATCHERIES			
CHATTAHOOCHEE FOREST	136,000	146,000	10,000
COHUTTA	80,000	90,000	10,000
MILLEN	121,000	127,000	6,000
WARM SPRINGS	83,000	92,000	9,000
WILDLIFE REFUGES			
OKEFENOKEE	374,000	355,000	19,000-
PIEDMONT	114,000	229,000	115,000
LAW ENFORCEMENT OFFICE			
ATLANTA	231,000	231,000	
ATLANTA	108,000	108,000	

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
GEORGIA			
ANIMAL DAMAGE CONTROL			
ATHENS	57,000	57,000	
COOPERATIVE FISHERY UNITS			
UNIV OF GEORGIA	51,000	51,000	
STATE TOTAL	1,355,000	1,486,000	131,000
HAWAII			
WILDLIFE REFUGES			
HI/PAC ISLANDS	168,000	205,000	37,000
LAW ENFORCEMENT OFFICE			
HONOLULU	75,000	75,000	
ECOLOGICAL SERVICES OFFICE			
HONOLULU	50,000	50,000	
ENDANGERED SPECIES			
ENDNGR SPECIES COORD	102,000	102,000	
COOPERATIVE FISHERY UNITS			
UNIV OF HAWAII	70,000	70,000	
STATE TOTAL	465,000	502,000	37,000
IDAHO			
FISH HATCHERIES			
HAGERMAN	231,000	243,000	12,000
KOOSKIA	191,000	191,000	
WILDLIFE REFUGES			
CAMAS	75,000	79,000	4,000
DEER FLAT	111,000	144,000	33,000
GRAYS LAKE	179,000	167,000	12,000-
KOOTENAI	56,000	63,000	7,000
MINIDOKA	61,000	78,000	17,000
LAW ENFORCEMENT OFFICE			
BOISE	125,000	125,000	
ECOLOGICAL SERVICES OFFICE			
BOISE	132,000	132,000	
ANIMAL DAMAGE CONTROL			
BOISE STATE OFFICE	281,000	357,000	76,000
COOPERATIVE FISHERY UNITS			
UNIV OF IDAHO	55,000	55,000	

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
IDAHO			
COOPERATIVE WILDLIFE UNITS			
UNIV OF IDAHO	57,000	57,000	
STATE TOTAL	1,554,000	1,691,000	137,000
ILLINOIS			
WILDLIFE REFUGES			
SAVANNA DISTRICT	42,000	42,000	
CRAB ORCHARD	802,000	954,000	152,000
MARK TWAIN	378,000	426,000	48,000
ECOLOGICAL SERVICES OFFICE			
ROCK ISLAND	131,000	131,000	
STATE TOTAL	1,353,000	1,553,000	200,000
INDIANA			
FISHERY SERVICES			
CENTRAL STATES FISH STA	90,000	90,000	
WILDLIFE REFUGES			
MUSCATATUCK	91,000	243,000	152,000
ANIMAL DAMAGE CONTROL			
WEST LAFAYETTE	81,000	81,000	
PRINCETON	29,000	29,000	
STATE TOTAL	291,000	443,000	152,000
IOWA			
WILDLIFE REFUGES			
LANSING DISTRICT	23,000	23,000	
DESOTO	394,000	473,000	79,000
UNION SLOUGH	52,000	97,000	45,000
COOPERATIVE FISHERY UNITS			
IOWA STATE UNIV	58,000	58,000	
COOPERATIVE WILDLIFE UNITS			
IOWA STATE UNIV	54,000	54,000	
STATE TOTAL	581,000	705,000	124,000
KANSAS			
FISH HATCHERIES			
CEDAR BLUFF	106,000	114,000	8,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
KANSAS			
WILDLIFE REFUGES			
FLINT HILLS	40,000	105,000	65,000
KIRWIN	122,000	151,000	29,000
QUIVIRA	135,000	178,000	43,000
LAW ENFORCEMENT OFFICE			
KANSAS CITY	115,000	115,000	
STATE TOTAL	518,000	663,000	145,000
KENTUCKY			
FISH HATCHERIES			
FRANKFORT	88,000	92,000	4,000
WOLF CREEK	44,000	48,000	4,000
LAW ENFORCEMENT OFFICE			
LOUISVILLE	71,000	71,000	
ANIMAL DAMAGE CONTROL			
LEXINGTON	45,000	45,000	
STATE TOTAL	248,000	256,000	8,000
LOUISIANA			
FISH HATCHERIES			
NATCHITOCHES	122,000	127,000	5,000
WILDLIFE REFUGES			
CATAHOULA	47,000	92,000	45,000
D'ARBONNE		92,000	92,000
DELTA-BRETON	77,000	98,000	21,000
LACASSINE	84,000	163,000	79,000
LAFAYETTE BIOLOGIST	32,000	32,000	
SABINE	102,000	186,000	84,000
LAW ENFORCEMENT OFFICE			
NEW ORLEANS	195,000	195,000	
NEW ORLEANS	124,000	124,000	
BATON ROUGE	73,000	73,000	
ECOLOGICAL SERVICES OFFICE			
LAFAYETTE	96,000	96,000	
ANIMAL DAMAGE CONTROL			
BATON ROUGE	45,000	45,000	
COOPERATIVE FISHERY UNITS			
LOUISIANA STATE	56,000	56,000	

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
LOUISIANA			
COOPERATIVE WILDLIFE UNITS			
LOUISIANA STATE	55,000	55,000	
STATE TOTAL	1,108,000	1,434,000	326,000
MAINE			
FISH HATCHERIES			
CRAIG BROOK	142,000	179,000	37,000
EAST ORLAND BIOLOGIST	60,000	60,000	
GREEN LAKE	191,000	353,000	162,000
WILDLIFE REFUGES			
MOOSEHORN	149,000	171,000	22,000
WILDLIFE SERVICES			
AUGUSTA	33,000	33,000	
FISHERY RESEARCH			
ATLANTIC SALMON INVES	131,000	131,000	
COOPERATIVE FISHERY UNITS			
UNIV OF MAINE	57,000	57,000	
COOPERATIVE WILDLIFE UNITS			
UNIV OF MAINE	63,000	63,000	
STATE TOTAL	826,000	1,047,000	221,000
MARYLAND			
WILDLIFE REFUGES			
BLACKWATER	180,000	219,000	39,000
MARTIN	19,000	31,000	12,000
EASTERN NECK	64,000	102,000	38,000
LAW ENFORCEMENT OFFICE			
BALTIMORE	427,000	427,000	
WILDLIFE SERVICES			
ANNAPOLIS	41,000	41,000	
ECOLOGICAL SERVICES OFFICE			
ANNAPOLIS	177,000	177,000	
WILDLIFE RESEARCH			
PATUXENT WLDLF RES CENTER	3,400,000	3,763,000	363,000
MIGRATORY BIRD LAB	814,000	814,000	
STATE TOTAL	5,122,000	5,574,000	452,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
MASSACHUSETTS			
FISH HATCHERIES			
BERKSHIRE	71,000	100,000	29,000
NO.ATTLEBORO	106,000	129,000	23,000
WILDLIFE REFUGES			
GREAT MEADOWS	72,000	108,000	36,000
PARKER RIVER	209,000	286,000	77,000
LAW ENFORCEMENT OFFICE			
BOSTON	362,000	362,000	
WILDLIFE SERVICES			
HADLEY	41,000	41,000	
STATE TOTAL	861,000	1,026,000	165,000
MICHIGAN			
FISH HATCHERIES			
JORDAN RIVER	250,000	349,000	99,000
PENDILLS CREEK	218,000	259,000	41,000
WILDLIFE REFUGES			
SENEY	139,000	448,000	309,000
SHIAWASSEE	217,000	347,000	130,000
ECOLOGICAL SERVICES OFFICE			
EAST LANSING	175,000	175,000	
ANIMAL DAMAGE CONTROL			
EAST LANSING	29,000	29,000	
FISHERY RESEARCH			
GREAT LAKES FISHERY LAB	1,904,000	2,306,000	402,000
BIOL SERVICES NATL TEAM			
NATL POWERPLANT TEAM	350,000	350,000	
STATE TOTAL	3,282,000	4,263,000	981,000
MINNESOTA			
FISH HATCHERIES			
NEW LONDON	80,000	101,000	21,000
FISHERY SERVICES			
BEMIDJI	29,000	29,000	
WILDLIFE REFUGES			
NATL SIGN CENTER-WINONA	120,000	120,000	
AGASSIZ	315,000	590,000	275,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
MINNESOTA			
WILDLIFE REFUGES			
RICE LAKE	64,000	179,000	115,000
SHERBURNE	186,000	262,000	76,000
TAMARAC	123,000	311,000	188,000
UPPER MISS. RIVER		268,000	268,000
WINONA DISTRICT	39,000	39,000	
WINONA HEADQUARTERS	131,000	131,000	
FERGUS FALLS COMPLEX	22,000	361,000	339,000
BENSON	176,000	176,000	
BIG STONE	110,000	110,000	
FERGUS FALLS WMD	125,000	125,000	
TAMARAC WMD	112,000	112,000	
LAW ENFORCEMENT OFFICE			
MINNEAPOLIS	831,000	831,000	
ECOLOGICAL SERVICES OFFICE			
TWIN CITIES	125,000	125,000	
ANIMAL DAMAGE CONTROL			
ST PAUL	75,000	75,000	
BEMIDJI	33,000	33,000	
STATE TOTAL	2,696,000	3,978,000	1,282,000
MISSISSIPPI			
FISH HATCHERIES			
MERIDIAN	96,000	117,000	21,000
TUPELO	80,000	89,000	9,000
WILDLIFE REFUGES			
HILLSIDE	12,000	70,000	58,000
NOXUBEE	179,000	154,000	25,000-
YAZOO	88,000	137,000	49,000
LAW ENFORCEMENT OFFICE			
JACKSON	65,000	65,000	
ECOLOGICAL SERVICES OFFICE	86,000	86,000	
NATIONAL COASTAL ECOSYSTEM TM	350,000	350,000	
ANIMAL DAMAGE CONTROL			
MISSISSIPPI	47,000	47,000	
STATE TOTAL	1,003,000	1,115,000	112,000
MISSOURI			
FISH HATCHERIES			
NEOSHO	107,000	115,000	8,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
MISSOURI			
WILDLIFE REFUGES			
MINGO	144,000	256,000	112,000
SQUAW CREEK	95,000	190,000	95,000
SWAN LAKE	201,000	261,000	60,000
LAW ENFORCEMENT OFFICE			
INDEPENDENCE	129,000	129,000	
ST CHARLES	100,000	100,000	
ECOLOGICAL SERVICES OFFICE			
KANSAS CITY	124,000	124,000	
FISHERY RESEARCH			
FISH PESTICIDE RSCH LAB	957,000	1,728,000	771,000
COOPERATIVE FISHERY UNITS			
UNIV OF MISSOURI	59,000	59,000	
COOPERATIVE WILDLIFE UNITS			
UNIV OF MISSOURI	62,000	62,000	
BIOL SERVICES NATL TEAM			
NATL STREAM ALTERATION TM	221,000	221,000	
STATE TOTAL	2,199,000	3,245,000	1,046,000
MONTANA			
FISH HATCHERIES			
FISH CULTURAL DEVEL CENTER	157,000	247,000	90,000
CRESTON	130,000	130,000	
ENNIS	149,000	224,000	75,000
MILES CITY	99,000	99,000	
FISHERY SERVICES			
KALISPELL	67,000	67,000	
HARDIN	33,000	33,000	
WILDLIFE REFUGES			
BENTON LAKE	91,000	131,000	40,000
CHARLES M RUSSELL	520,000	735,000	215,000
MEDICINE LAKE	18,000	60,000	42,000
NATIONAL BISON RANGE	182,000	269,000	87,000
RAVALLI	65,000	100,000	35,000
RED ROCK LAKES	79,000	137,000	58,000
BOWDOIN	110,000	159,000	49,000
LAW ENFORCEMENT OFFICE			
BILLINGS	130,000	130,000	

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
MONTANA			
ECOLOGICAL SERVICES OFFICE			
BILLINGS	253,000	253,000	
ANIMAL DAMAGE CONTROL			
BILLINGS	298,000	382,000	84,000
COOPERATIVE FISHERY UNITS			
UNIV OF MONTANA	56,000	56,000	
COOPERATIVE WILDLIFE UNITS			
UNIV OF MONTANA	61,000	61,000	
STATE TOTAL	2,498,000	3,273,000	775,000
NEBRASKA			
FISH HATCHERIES			
CRAWFORD	82,000	82,000	
FISHERY SERVICES			
VALENTINE	45,000	45,000	
WILDLIFE REFUGES			
CRESCENT LAKE	64,000	109,000	45,000
FORT NIOBRARA	123,000	244,000	121,000
HASTINGS WMD	75,000	144,000	69,000
LAW ENFORCEMENT OFFICE			
OMAHA	68,000	68,000	
ECOLOGICAL SERVICES OFFICE			
GRAND ISLAND	20,000	20,000	
ANIMAL DAMAGE CONTROL			
LINCOLN	164,000	212,000	48,000
STATE TOTAL	641,000	924,000	283,000
NEVADA			
FISH HATCHERIES			
LAHONTAN	311,000	340,000	29,000
WILLOW BEACH	202,000	223,000	21,000
FISHERY SERVICES			
LAS VEGAS	34,000	34,000	
RENO	96,000	96,000	
WILDLIFE REFUGES			
DESERT NW RANGE	152,000	204,000	52,000
RUBY LAKE	81,000	144,000	63,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
NEVADA			
WILDLIFE REFUGES			
STILLWATER	131,000	151,000	20,000
ANIMAL DAMAGE CONTROL			
RENO STATE OFFICE	207,000	261,000	54,000
STATE TOTAL	1,214,000	1,453,000	239,000
NEW HAMPSHIRE			
FISH HATCHERIES			
BERLIN	146,000	177,000	31,000
NASHUA	105,000	112,000	7,000
FISHERY SERVICES			
LACONIA	53,000	53,000	
WILDLIFE SERVICES			
CONCORD	37,000	37,000	
ECOLOGICAL SERVICES OFFICE			
CONCORD	103,000	103,000	
STATE TOTAL	444,000	482,000	38,000
NEW JERSEY			
FISHERY SERVICES			
DELAWARE RVR ANAD PROGRAM	17,000	17,000	
WILDLIFE REFUGES			
BRIGANTINE	122,000	173,000	51,000
GREAT SWAMP	244,000	257,000	13,000
WILDLIFE SERVICES			
TRENTON	36,000	36,000	
STATE TOTAL	419,000	483,000	64,000
NEW MEXICO			
FISH HATCHERIES			
DEXTER	36,000	85,000	49,000
MESCALERO	105,000	110,000	5,000
FISHERY SERVICES			
GALLUP	82,000	82,000	
MESCALERO	31,000	31,000	
WILDLIFE REFUGES			
GRULLA	2,000	3,000	1,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
NEW MEXICO			
WILDLIFE REFUGES			
BITTER LAKE	141,000	235,000	94,000
BOSQUE DEL APACHE	229,000	319,000	90,000
SAN ANDRES	21,000	32,000	11,000
SEVILLETA	40,000	121,000	81,000
LAS VEGAS	161,000	177,000	16,000
MAXWELL	59,000	143,000	84,000
LAW ENFORCEMENT OFFICE			
ALBUQUERQUE	285,000	285,000	
ECOLOGICAL SERVICES OFFICE			
ALBUQUERQUE	80,000	80,000	
ANIMAL DAMAGE CONTROL			
ALBUQUERQUE	319,000	420,000	101,000
STATE TOTAL	1,591,000	2,123,000	532,000
NEW YORK			
WILDLIFE REFUGES			
IROQUOIS	137,000	179,000	42,000
MONTEZUMA	109,000	163,000	54,000
TARGET ROCK	99,000	156,000	57,000
LAW ENFORCEMENT OFFICE			
NEW YORK	542,000	542,000	
WILDLIFE SERVICES			
ALBANY	35,000	35,000	
ECOLOGICAL SERVICES OFFICE			
CORTLAND	94,000	94,000	
FISHERY RESEARCH			
TUNISON FISH NUTRITION LAB	482,000	505,000	23,000
COOPERATIVE FISHERY UNITS			
CORNELL UNIV	50,000	50,000	
COOPERATIVE WILDLIFE UNITS			
CORNELL UNIV	50,000	50,000	
STATE TOTAL	1,598,000	1,774,000	176,000
NORTH CAROLINA			
FISH HATCHERIES			
EDENTON	99,000	125,000	26,000
MCKINNEY LAKE	74,000	81,000	7,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
NORTH CAROLINA			
FISH HATCHERIES			
PISGAH FOREST	202,000	217,000	15,000
PISGAH FOREST BIOLOGIST	37,000	41,000	4,000
FISHERY SERVICES			
CHEROKEE	40,000	40,000	
WILDLIFE REFUGES			
MATTAMUSKEET	319,000	326,000	7,000
PEA ISLAND	64,000	113,000	49,000
PEE DEE	71,000	104,000	33,000
PUNGO	102,000	132,000	30,000
WASHINGTON BIOLOGIST	30,000	30,000	
LAW ENFORCEMENT OFFICE			
RALEIGH	80,000	80,000	
ECOLOGICAL SERVICES OFFICE			
RALEIGH	84,000	84,000	
ANIMAL DAMAGE CONTROL			
RALEIGH	48,000	48,000	
COOPERATIVE FISHERY UNITS			
N CAROLINA STATE	54,000	54,000	
STATE TOTAL	1,304,000	1,475,000	171,000
NORTH DAKOTA			
FISH HATCHERIES			
GARRISON	133,000	133,000	
VALLEY CITY	115,000	115,000	
FISHERY SERVICES			
BISMARCK	36,000	36,000	
WILDLIFE REFUGES			
ARROWWOOD	207,000	282,000	75,000
AUDUBON	84,000	121,000	37,000
DES LACS	217,000	299,000	82,000
DEVILS LAKE WMD	252,000	256,000	4,000
J CLARK SALYER	219,000	206,000	13,000-
KULM	9,000	35,000	26,000
TEWAUKON	83,000	128,000	45,000
UPPER SOURIS	92,000	120,000	28,000
DEVILS LAKE	1,000	1,000	
JAMESTOWN	3,000	3,000	
MINOT	1,000	1,000	
LAW ENFORCEMENT OFFICE			
BISMARCK	129,000	129,000	

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
NORTH DAKOTA			
ECOLOGICAL SERVICES OFFICE BISMARCK	132,000	132,000	
ANIMAL DAMAGE CONTROL BISMARCK	86,000	111,000	25,000
WILDLIFE RESEARCH NO PRAIRIE WI RES CNTR	1,350,000	1,424,000	74,000
STATE TOTAL	3,149,000	3,532,000	383,000
OHIO			
FISH HATCHERIES HEBRON	75,000	87,000	12,000
SENECAVILLE	79,000	92,000	13,000
WILDLIFE REFUGES OTTAWA	112,000	214,000	102,000
ECOLOGICAL SERVICES OFFICE LEBANON	144,000	144,000	
ANIMAL DAMAGE CONTROL COLUMBUS	140,000	140,000	
COOPERATIVE FISHERY UNITS OHIO STATE	50,000	50,000	
COOPERATIVE WILDLIFE UNITS OHIO STATE	55,000	55,000	
STATE TOTAL	655,000	782,000	127,000
OKLAHOMA			
FISH HATCHERIES TISHOMINGO	136,000	152,000	16,000
WILDLIFE REFUGES OPTIMA	26,000	59,000	33,000
SALT PLAINS	190,000	247,000	57,000
SEQUOYAH	93,000	147,000	54,000
TISHOMINGO	152,000	263,000	111,000
WASHITA	93,000	142,000	49,000
WICHITA MOUNTAINS	525,000	624,000	99,000
LAW ENFORCEMENT OFFICE OKLA CITY	71,000	71,000	
ECOLOGICAL SERVICES OFFICE TULSA	60,000	60,000	

83-561 O - 77 - 31

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
OKLAHOMA			
ANIMAL DAMAGE CONTROL			
OKLAHOMA CITY	163,000	216,000	53,000
COOPERATIVE FISHERY UNITS			
OKLAHOMA STATE	51,000	51,000	
COOPERATIVE WILDLIFE UNITS			
OKLAHOMA STATE	54,000	54,000	
STATE TOTAL	1,614,000	2,086,000	472,000
OREGON			
FISH HATCHERIES			
EAGLE CREEK	25,000	42,000	17,000
WARM SPRINGS	48,000	48,000	
WILDLIFE REFUGES			
MALHEUR	330,000	470,000	140,000
SHELDON-HART MOUNTAIN	341,000	451,000	110,000
UMATILLA	176,000	231,000	55,000
WILLIAM F. FINLEY	158,000	251,000	93,000
LAW ENFORCEMENT OFFICE			
PORTLAND	224,000	224,000	
SALEM	106,000	106,000	
ECOLOGICAL SERVICES OFFICE			
PORTLAND	196,000	196,000	
ANIMAL DAMAGE CONTROL			
PORTLAND STATE OFFICE	278,000	354,000	76,000
COOPERATIVE FISHERY UNITS			
OREGON STATE	52,000	52,000	
COOPERATIVE WILDLIFE UNITS			
OREGON STATE	49,000	49,000	
STATE TOTAL	1,983,000	2,474,000	491,000
PENNSYLVANIA			
FISH HATCHERIES			
ALLEGHENY	126,000	220,000	94,000
LAMAR DEVELOPMENT CENTER	145,000	145,000	
TYLERSVILLE	136,000	156,000	20,000
FISHERY SERVICES			
WARREN	36,000	36,000	

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
PENNSYLVANIA			
WILDLIFE REFUGES			
ERIE	81,000	127,000	46,000
TINICUM MARSH ENVIRN CNTR	86,000	145,000	59,000
WILDLIFE SERVICES			
UNIVERSITY PARK	25,000	25,000	
ECOLOGICAL SERVICES OFFICE			
HARRISBURG	124,000	124,000	
FISHERY RESEARCH			
NATIONAL RESEARCH/DEV CNTR	300,000	300,000	
COOPERATIVE FISHERY UNITS			
PENN STATE UNIV	60,000	60,000	
COOPERATIVE WILDLIFE UNITS			
PENN STATE UNIV	57,000	57,000	
STATE TOTAL	1,176,000	1,395,000	219,000
RHODE ISLAND			
WILDLIFE REFUGES			
NINIGRET	68,000	80,000	12,000
STATE TOTAL	68,000	80,000	12,000
SOUTH CAROLINA			
FISH HATCHERIES			
CHERAW	72,000	78,000	6,000
ORANGEBURG	118,000	126,000	8,000
WALHALLA	131,000	139,000	8,000
WILDLIFE REFUGES			
CAPE ROMAIN	175,000	173,000	2,000-
CAROLINA SANDHILLS	119,000	161,000	42,000
SANTEE	143,000	247,000	104,000
SAVANNAH	297,000	387,000	90,000
LAW ENFORCEMENT OFFICE			
COLUMBIA	74,000	74,000	
ECOLOGICAL SERVICES OFFICE			
CHARLESTON	49,000	49,000	
ANIMAL DAMAGE CONTROL			
COLUMBIA	31,000	42,000	11,000
STATE TOTAL	1,209,000	1,476,000	267,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
SOUTH DAKOTA			
FISH HATCHERIES			
GAVINS POINT	138,000	165,000	27,000
MCNENNY	144,000	144,000	
DIET TEST DEVELOP CENTER	76,000	76,000	
COLD WATER TRAINING CENTER	2,000	2,000	
WILDLIFE REFUGES			
LACREEK	152,000	207,000	55,000
LAKE ANDES	121,000	149,000	28,000
MADISON	79,000	105,000	26,000
SAND LAKE	197,000	289,000	92,000
WAUBAY	103,000	166,000	63,000
ECOLOGICAL SERVICES OFFICE			
PIERRE	97,000	97,000	
ANIMAL DAMAGE CONTROL			
PIERRE	252,000	264,000	12,000
COOPERATIVE FISHERY UNITS			
SOUTH DAKOTA STATE	57,000	57,000	
COOPERATIVE WILDLIFE UNITS			
SOUTH DAKOTA STATE	55,000	55,000	
STATE TOTAL	1,473,000	1,776,000	303,000
TENNESSEE			
FISH HATCHERIES			
DALE HOLLOW	164,000	178,000	14,000
ERWIN	111,000	143,000	32,000
FISHERY SERVICES			
GATLINBURG	48,000	48,000	
NORRIS	44,000	44,000	
WILDLIFE REFUGES			
CROSS CREEKS	104,000	149,000	45,000
HATCHIE	61,000	98,000	37,000
REELFOOT	98,000	120,000	22,000
TENNESSEE	213,000	268,000	55,000
LAW ENFORCEMENT OFFICE			
NASHVILLE	168,000	168,000	
ANIMAL DAMAGE CONTROL			
NASHVILLE	62,000	62,000	
COOPERATIVE FISHERY UNITS			
TENN TECH UNIV	52,000	52,000	
STATE TOTAL	1,125,000	1,330,000	205,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
TEXAS			
FISH HATCHERIES			
INKS DAM	133,000	168,000	35,000
SAN MARCOS	124,000	138,000	14,000
SAN MARCOS FCOC	92,000	92,000	
UNVALDE	142,000	165,000	23,000
WILDLIFE REFUGES			
ANAHUAC	165,000	258,000	93,000
ARANSAS	277,000	385,000	108,000
BRAZORIA	95,000	204,000	109,000
SAN BERNARD	44,000	107,000	63,000
LAGUANA ATASCOSA	150,000	219,000	69,000
SANTA ANA	58,000	97,000	39,000
ATTWATER PRAIRIE CHICKEN	71,000	84,000	13,000
BUFFALO LAKE	41,000	49,000	8,000
HAGERMAN	81,000	193,000	112,000
MULESHOE	49,000	70,000	21,000
LAW ENFORCEMENT OFFICE			
CORPUS CHRISTI	90,000	90,000	
FORT WORTH	66,000	66,000	
HOUSTON	57,000	57,000	
WILDLIFE SERVICES			
RED WOLF FIELD STATION	60,000	60,000	
ECOLOGICAL SERVICES OFFICE			
CORPUS CHRISTI	95,000	95,000	
FORT WORTH	91,000	91,000	
GALVESTON	204,000	204,000	
ANIMAL DAMAGE CONTROL			
SAN ANTONIO	394,000	524,000	130,000
STATE TOTAL	2,579,000	3,416,000	837,000
UTAH			
FISH HATCHERIES			
JONES HOLE	202,000	202,000	
FISHERY SERVICES			
VERNAL	32,000	32,000	
WILDLIFE REFUGES			
BEAR RIVER	140,000	251,000	111,000
FISH SPRINGS	53,000	101,000	48,000
OURAY	134,000	141,000	7,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
UTAH			
LAW ENFORCEMENT OFFICE			
SALT LAKE CITY	157,000	157,000	
ECOLOGICAL SERVICES OFFICE			
SALT LAKE CITY	111,000	111,000	
ANIMAL DAMAGE CONTROL			
SALT LAKE CITY	329,000	424,000	95,000
COOPERATIVE FISHERY UNITS			
UTAH STATE	52,000	52,000	
COOPERATIVE WILDLIFE UNITS			
UTAH STATE	52,000	52,000	
STATE TOTAL	1,262,000	1,523,000	261,000
VERMONT			
FISH HATCHERIES			
PITTSFORD	131,000	145,000	14,000
WHITE RIVER		268,000	268,000
FISHERY SERVICES			
MONTPELIER	102,000	102,000	
ANADROMOUS FISH PLANNING	30,000	30,000	
WILDLIFE REFUGES			
MISSISQUOI	55,000	70,000	15,000
STATE TOTAL	318,000	615,000	297,000
VIRGINIA			
FISH HATCHERIES			
HARRISON LAKE	85,000	99,000	14,000
PAINT BANK	156,000	169,000	13,000
WYTHEVILLE	157,000	170,000	13,000
FISHERY SERVICES			
YORKTOWN	52,000	52,000	
WILDLIFE REFUGES			
BACK BAY	196,000	261,000	65,000
MACKAY ISLAND	98,000	53,000	45,000-
CHINCOTEAGUE	302,000	307,000	5,000
DISMAL SWAMP	292,000	292,000	
MASON NECK	37,000	61,000	24,000
PRESQUILE	48,000	73,000	25,000
WILDLIFE SERVICES			
BLACKSBURG	36,000	36,000	

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
VIRGINIA			
COOPERATIVE FISHERY UNITS			
VIRGINIA TECH	53,000	53,000	
COOPERATIVE WILDLIFE UNITS			
VIRGINIA TECH	57,000	57,000	
STATE TOTAL	1,569,000	1,683,000	114,000
WASHINGTON			
FISH HATCHERIES			
ABERNATHY SALMON CDC	185,000	206,000	21,000
CARSON	44,000	55,000	11,000
ENTIAT	130,000	179,000	49,000
LEAVENWORTH	178,000	218,000	40,000
LITTLE WHITE SALMON	59,000	59,000	
QUILCENE	165,000	220,000	55,000
QUINAULT	193,000	210,000	17,000
SPRING CREEK	27,000	27,000	
WINTHROP	154,000	220,000	66,000
YAKIMA FISH SCREENS	77,000	144,000	67,000
FISHERY SERVICES			
COULEE DAM	28,000	28,000	
TUMWATER	353,000	353,000	
VANCOUVER	170,000	170,000	
NORDLAND	40,000	40,000	
WILDLIFE REFUGES			
COLUMBIA	159,000	177,000	18,000
MCNARY	154,000	282,000	128,000
NISQUALLY FLATS	95,000	211,000	116,000
TOPPENISH		41,000	41,000
LOWER COLUMBIA RIVER	312,000	427,000	115,000
TURNBILL	92,000	190,000	98,000
LITTLE PEND OREILLE	55,000	55,000	
LAW ENFORCEMENT OFFICE			
OLYMPIA	142,000	142,000	
ECOLOGICAL SERVICES OFFICE			
OLYMPIA	147,000	147,000	
ANIMAL DAMAGE CONTROL			
UNION GAP STATE OFFICE	33,000	33,000	
FISHERY RESEARCH			
WESTERN DISEASE LAB	762,000	914,000	152,000
COOPERATIVE FISHERY UNITS			
UNIV OF WASH	62,000	62,000	
STATE TOTAL	3,816,000	4,810,000	994,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
WEST VIRGINIA			
FISH HATCHERIES			
BOWDEN	163,000	173,000	10,000
LEETOWN	129,000	237,000	108,000
KEARNEYSVILLE BIOLOGIST	31,000	31,000	
WHITE SULPHUR SPRINGS	114,000	125,000	11,000
WILDLIFE SERVICES			
ELKINS	27,000	27,000	
FISHERY RESEARCH			
EA FISH DISEASE LAB	337,000	338,000	1,000
STATE TOTAL	801,000	931,000	130,000
WISCONSIN			
FISH HATCHERIES			
HATCHERY BIOLOGY LAB	76,000	76,000	
GENOA	88,000	113,000	25,000
LAKE MILLS	75,000	90,000	15,000
FISHERY SERVICES			
ASHLAND	56,000	56,000	
WILDLIFE REFUGES			
HORICON	114,000	189,000	75,000
NECEDAH	93,000	230,000	137,000
LACROSSE DISTRICT	38,000	38,000	
CASSVILLE DISTRICT	36,000	36,000	
ECOLOGICAL SERVICES OFFICE			
GREEN BAY	122,000	122,000	
ANIMAL DAMAGE CONTROL			
STEVENS POINT	34,000	34,000	
FISHERY RESEARCH			
FISH CONTROL LAB	509,000	798,000	289,000
NEW FISH CONTROL LAB		184,000	184,000
NATL F/W HEALTH LAB	535,000	535,000	
COOPERATIVE FISHERY UNITS			
UNIV OF WISC	54,000	54,000	
COOPERATIVE WILDLIFE UNITS			
UNIV OF WISC	40,000	40,000	
STATE TOTAL	1,870,000	2,595,000	725,000

	FY 1977 ESTIMATE	FY 1978 ESTIMATE	INCREASE/ DECREASE
WYOMING			
FISH HATCHERIES			
JACKSON	109,000	150,000	41,000
SARATOGA	93,000	143,000	50,000
FISHERY SERVICES			
LANDER	75,000	75,000	
MAMMOUTH	75,000	75,000	
WILDLIFE REFUGES			
NATIONAL ELK REFUGE	234,000	268,000	34,000
SEEDSKADEE	54,000	100,000	46,000
ANIMAL DAMAGE CONTROL			
CASPER	307,000	397,000	90,000
FISHERY RESEARCH			
FISH GENETICS LAB	290,000	290,000	
STATE TOTAL	1,237,000	1,498,000	261,000
PUERTO RICO			
LAW ENFORCEMENT OFFICE			
SAN JUAN	29,000	29,000	
ECOLOGICAL SERVICES OFFICE			
PUERTO RICO	32,000	32,000	
COMMONWEALTH TOTAL	61,000	61,000	

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

NATIONAL PARK SERVICE

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

SUMMARY AND HIGHLIGHT MEMORANDUM

The National Park Service operates and maintains the National Park System; encourages the preservation of significant natural and historic resources; and cooperates with Federal and State agencies and private organizations in park, recreation and historic preservation programs.

The fundamental mission of the National Park Service is set forth in the act of August 25, 1916, which states:

> "...The Service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoymentof the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

The National Park System contains 291 diverse parks containing 31.1 million acres. These parks are located in 47 States, the District of Columbia, Puerto Rico, and the Virgin Islands. There will be an estimated 276 million visits to these parks in fiscal 1978.

Between 1960 and 1976, 105 new park areas have been added to the National Park System. Visitation has grown from 127 million to 256 million during that period, an increase of 100 percent. In addition, operational workload has been increased by environmental quality, safety and public health legislation.

In order to operate new parks, provide for increased visitation and other expanded workload, the Service realigned and reordered its priorities. Visitor services in older areas were reduced, maintenance was deferred, positions were transferred and rehabilitation and construction projects were delayed. Because of this, the overall condition of the National Park System has become a matter of public concern. Corrective action must be taken to correct these conditions as well as provide for an estimated increase of 12 million visitors to the parks in fiscal 1978.

The Service continues to face three major issues:

-- protection of natural and historic resources.

-- adequate maintenance of existing facilities and visitor services.

-- staffing and development of recently authorized parks.

The increases requested for fiscal 1978 will enable the Service to begin to resolve these issues. Major program thrusts are:

1. Preservation and Protection. This thrust includes the protection, stabilization and preservation of natural and historic park resources. Significant initiatives for fiscal 1978 are a prototype research and resource management program at Everglades National Park and a new fund to be used to stabilize historic structures.

2. Serving the Visitor. This thrust includes maintaining Government investment in recreation facilities and day-to-day operational services and repair. It also includes visitor protection and safety and visitor interpretive services. A significant increase requested for fiscal 1978 includes additional cyclic maintenance.

3. Operating Recently Authorized Areas. This thrust includes development, operations and staffing for new areas.

The Service is also requesting an expansion of Grants-in-Aid to States for historic preservation.

A comparison of the amounts requested in fiscal 1978 with the amounts estimated to be available in fiscal 1977 reveals program areas where increases are requested.

	Budget Authority (In thousands of dollars)		
Appropriation	Fiscal 1977	Fiscal 1978	Change
Operation of the National Park System	$293,841,000	$323,147,000	+$29,306,000
Construction	48,367,000	52,190,000	+ 3,823,000
Preservation of Historic Properties	21,576,000	6,589,000	- 14,987,000
Historic Preservation Fund	--	35,000,000	+ 35,000,000
Planning, Development and Operation of Recreation Facilities	14,000,000	14,000,000	NONE
John F. Kennedy Center for the Performing Arts	3,100,000	3,783,000	+ 683,000
Total	$380,884,000	$434,709,000	+$53,825,000

Operation of the National Park System

Highlights of the increases requested under this appropriation follow:

Park Management

Management of Park Areas +$3,422,000

This increase will be used to: (1) operate new areas, (2) fund half of the Student Conservation Program, (3) provide for increased workload in older areas, and (4) annualize salary increases.

Interpretive Services Significant portion of this increase will: (1) provide interpretive services in new areas, (2) support new positions and increased workload in older areas, and (3) annualize salary increases.	+$2,649,300
Visitor Protection and Safety Major increases in this function are related to: (1) operation of newer areas, (2) Park Police pay and pension increases, (3) operational program increases in older areas, and (4) annualization of salary increases.	+ 3,877,300
Maintenance Operational increases under this function include: (1) cyclic maintenance, (2) maintenance at new areas, (3) increased workload and positions in older areas, and (4) annualization of salary and wage increases.	+11,701,400
Resources Management Major increases in resources management are related to: (1) initiation of a historic resources preservation program, (2) conduct of a prototype research and resources management project at Everglades National Park, (3) resource management and preservation in new areas, and (4) annualization of salary and wage increases.	+ 5,266,600
GSA Space Rental Required to fund increased cost of space rented by GSA.	+ 283,000
Employees Compensation Fund Need to fund increased cost of compensation for employees disability and death benefits.	+ 560,000
Cooperative Programs	
Alaska Native Claims Settlement Act This increase will be used to implement provision of the Alaska Native Claims Settlement Act.	+ 1,175,000
Statutory and Contractual Aid for Other Activities	
International Peace Garden This increase will match Canadian funds for this International Park.	+ 1,200,000

Construction

Highlights follow:

Buildings, Utilities and Other Facilities -$2,573,000
The line item construction program includes 56 percent for visitor use and support facilities, 25 percent for historic preservation and stabilization, and 19 percent for water and sewerage systems.

Roads, Trails and Parkways + 6,396,000
The line item construction program includes 26 percent for new roads and 74 percent for repair and rehabilitation of roads.

Preservation of Historic Properties

Highlights of the increases requested follow:

National Register	+ 845,000
Historic Architectural and Archeological Services	+ 780,000
Historic American Engineering Record	+ 75,000
	+ 1,700,000

This increase provides for implementation of Tax Reform Act of 1976 and annualization of classified pay increase.

Archeological Investigations and Salvage + 813,000
This increase will cover costs of archeological investigations and salvage.

Historic Preservation Fund

Grants-in-Aid to the States, Territories and National Trust +17,070,000
Increase will provide for preservation of additional historic properties by the States, Territories and National Trust for Historic Preservation.

Administrative Expenses + 430,000
Increase will provide technical and administrative support for Grants-in-Aid.

Planning, Development, and Operation of Recreation Facilities

There will be no change in the total appropriation, but the Service will reallocate the funds to:

Fee Collection + 600,000
This increase will permit the collection of more fees and the establishment of a campsite reservation system.

Visitor Transportation Systems Four new systems will be operated; studies will be undertaken; and increased operating costs will be covered.	+$1,200,000
Exhibits and Audiovisual Projects This will be a new program to systematically upgrade exhibits and audiovisual presentations, to preserve artifacts, and to study and replace historic furnishings.	+ 3,500,000

John F. Kennedy Center for the Performing Arts

The increase under this appropriation will cover increased costs of operating the John F. Kennedy Center for the Performing Arts.	+ 683,000

Within the past 2 years, the additional staff allocated to the National Park Service has helped alleviate the more pressing problems which the Service faced. The increased funding requested in 1978 will further help protect and preserve the unique and irreplaceable natural and historic resources in the National Park System and will provide for their continued use and enjoyment.

Status of Authorizations

No funding requests are included for which authorizing legislation is needed; the enactment of authorizing legislation prior to September 30, 1977, is not needed to cover any appropriation requested herein for fiscal 1978.

83-561 O - 77 - 32

DEPARTMENT OF THE INTERIOR

National Park Service

Budget Authority
(in thousands of dollars)

Account & Functional Code		1976 Enacted	1977 Estimate	1978 Estimate
Federal Funds				
General & Special Funds:				
Operation of the National Park System	303	255,203	285,493[a/]	323,147
Park Police Supplemental			730[b/]	
Land Heritage Act Supplemental.....			13,000[c/]	
Construction	303	27,457	40,097	52,190
Land Heritage Supplemental			694,300[c/]	
Road Construction Contract Authority Permanent Liquidation of Contract Authority	303	--	-133,995	--
Preservation of Historic Properties	303	24,666	21,630[a/]	6,589
Tax Reform Act Supplemental.....			1,500[b/]	
Historic Preservation Fund	303	--	--	35,000
Planning, Development and Operation of Recreation Facilities (Indefinite)	303	14,000	14,000	14,000
John F. Kennedy Center for the Performing Arts	303	2,645	3,100	3,783
Miscellaneous Permanent Appropriation (Permanent, Indefinite Special Fund)	303	419	320	500
Total Federal Funds, NPS		324,390	940,175	435,209
Trust Funds				
National Park Service Trust Funds (Permanent Indef.)	303	1,406	3,000	3,000
Total Federal and Trust Funds		325,796	943,175	438,209

a/ Adjusted for appropriation transfer.
b/ Supplemental, existing legislation.
c/ Supplemental, additional authorizing legislation required.

NATIONAL PARK SERVICE

SUMMARY OF APPROPRIATIONS, REVENUES, AND VISITS

Fiscal Year	Appropriations a/				Revenues		Visits
	Operating Programs	Grants and Assistance Programs	Planning and Development Programs	Total	General Fund	Land and Water Conservation Fund	
1966	$58,179,200	$1,119,500	$68,469,500	$127,768,200	$1,707,748	$6,371,967	127,440,300
1967	64,320,600	1,257,600	57,488,400	123,066,600	1,747,071	6,544,330	135,325,600
1968	73,201,200	1,745,500	53,238,100	128,184,800	1,858,361	6,996,063	145,342,200
1969	76,905,700	1,501,500	26,328,600	104,735,800	1,929,915	7,135,505	157,356,500
1970	93,417,770	2,607,900	33,232,986	129,258,656	2,187,246	6,581,443	166,900,000
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	264,021,000	31,379,000	68,686,000	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	628,105	9,496,143	105,000,000
1977(Est.)	307,223,000	31,055,000	757,318,000	1,095,596,000	4,358,000	14,030,000	264,400,000
1978(Est.)	323,055,000	51,538,000	90,314,271	464,907,271	4,930,000	14,033,000	275,800,000

a/ Adjusted to include supplemental appropriations and to reflect appropriation transfers.

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 1976 and the Transition Quarter and Estimated for the Fiscal Year 1977 and Fiscal Year 1978

(in thousands of dollars)

	Actual		Estimated	
	1976	TQ	1977	1978
Permits and licenses	$13	$3	$15	$16
Fines, penalties, and forfeitures	5	2	7	8
Gifts and contributions	5	2	5	5
Rents, royalties, and other earnings	438	126	456	488
Sale of Government property and products	215	72	232	251
Business concessions	3,462	403	3,500	4,000
Fees for services	86	11	97	113
Recoveries and refunds	71	10	46	49
Totals	4,295	629	4,358	4,930

Recreation Fee Revenues Deposited to the Credit of the Land and Water Conservation Fund during the Fiscal Year 1976 and the Transition Quarter and Estimated for the Fiscal Year 1977 and Fiscal Year 1978

(in thousands of dollars)

	Actual		Estimated	
	1976	TQ	1977	1978
Admission Fees (Annual Permits)	$1,557	$767	$1,600	$1,600
Other (Short-term Entrance, Admissions, Guide, Elevator, and User Fees, Surplus Property Sales)	13,712	8,728	12,430	12,433
Total	15,269	9.495	14,030	14,033

NATIONAL PARK SERVICE

Operation of the National Park System

Appropriation, 1976	$243,588,000	
Supplemental appropriation, 1976	11,615,000	
Total appropriation, 1976		$255,203,000
Appropriation, 1977	276,845,000	
Proposed supplemental, Civilian pay raises	4,920,000	
Proposed supplemental, Wage Board pay raises	4,228,000	
Transfer of activities from Construction appropriation	8,348,000	
Transferred to "Advisory Council on Historic Preservation"	-140,000	
Total available, 1977		293,841,000

SUMMARY OF INCREASES AND DECREASES, 1978

	Base for 1978	Increase 1978	
Park management:			
Management of park areas	$32,912,000	$3,422,000	
Interpretive services	31,511,000	2,649,000	
Visitor protection and safety	34,637,000	3,877,000	
Maintenance	130,888,000	11,702,000	
Resource management	40,022,000	5,267,000	
GSA Space costs	4,914,000	283,000	
Employees compensation fund	974,000	560,000	27,760,000
Executive direction			
Annualization of classified pay	5,937,000	2,000	
Park, recreation and wilderness planning	3,469,000	257,000	
Cooperative programs	2,925	1,253,000	
Statutory and contractual aid	1,954	34,000	1,546,000
Total, net increase, 1978			29,306,000
Budget Estimate, 1978			323,147,000

NATIONAL PARK SERVICE
OPERATION OF THE NATIONAL PARK SYSTEM

Analysis by Activities

Activity	Fiscal Year 1976 Amount Available	(Direct Appropriation) Fiscal Year 1977 Total Appropriation	Pay Cost Supplemental	Amount Available
1. Park management.....	$248,279,760	$269,812,000[a/]	$9,044,000	$278,856,000
2. Forest fire suppression and rehabilitation of burned areas.....	1,100,000	700,000	--	700,000
3. Executive direction.....	5,725,000	5,833,000	104,000	5,937,000
Unobligated balance lapsing	98,240	--	--	--
Total.....	255,203,000	276,345,000	9,148,000	285,493,000

a/ $140,000 transferred to Advisory Council via appropriation transfer.

Operation of the National Park System

Analysis by Activities

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
	(Direct Appropriations)				
1. Park management	$248,279,760	$278,856,000[a/]	$306,616,000	$+27,760,000	13
2. Forest fire suppression and rehabilitation of burned areas	1,100,000	700,000	700,000	--	27
3. Executive direction	5,725,000	5,937,000	5,939,000	+2,000	29
4. Park, recreation and wilderness planning	4,875,000	3,469,000	3,726,000	+257,000	30
5. Cooperative programs	3,174,000	2,925,000	4,178,000	+1,253,000	35
6. Statutory or contractual aid for other activities	894,000	1,954,000	1,988,000	+34,000	41
Unobligated balance lapsing	98,240	--	--	--	
Totals	264,146,000[b/]	293,841,000[c/]	323,147,000	+29,306,000	

a/ $140,000 transferred to Advisory Council on Historic Preservation via appropriation transfer.

b/ Includes $8,943,000 appropriation in Construction account; actual appropriation was $255,203,000.

c/ Includes $8,348,000 appropriation in Construction account; appropriation request is $285,633,000.

Operation of the National Park System

Analysis of Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Perm. Pos.	1978 Estimate	Perm. Pos.	Increase or Decrease (-) 1978 compared with 1977 Dollars	Pos.
6. Statutory or contractual aid for other activities							
A. Roosevelt Campobello Int. Park Commission.....	$396,000	$257,000	--	$283,000	--	$26,000	--
B. Hampton National Historic Site.....	44,000	44,000	--	100,000	--	56,000	--
C. Fort Scott Historic Area...	175,000	275,000	--	--	--	-275,000	--
D. Ice Age National Scientific Reserve.....	279,000	378,000	--	405,000	--	27,000	--
E. Father Marquette National Memorial.....	--	1,000,000	--	--	--	-1,000,000	--
F. International Peace Gardens	--	--	--	1,200,000	--	1,200,000	--
Total, Statutory or contractual aid for other activities.....	894,000	1,954,000	--	1,988,000	--	34,000	--

1. Park Management: Fiscal year 1977, $278,856,000; Fiscal Year 1978, $306,616,000; increase of $27,760,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$3,422,400	158	$36,334,400	1,390	Direction and administration of park areas.
(B)	--	1,050,000	60	Concession operation and services.
(C)+ 2,649,300	110	34,160,300	1,052	Interpretation of park areas.
(D)+ 3,877,300	150	38,514,300	1,638	Visitor protection and safety.
(E)+11,701,400	300	142,589,400	3,475	Maintenance of park areas and facilities.
(F)+ 5,266,600	71	45,288,600	727	Resources management.
(G)		1,698,000	30	Production of informational folders and publications.
(H)		250,000		Volunteers-in-Parks.
(I)+ 560,000		1,534,000		Employees Compensation Fund Payments.
(J)+ 283,000		5,197,000		GSA Space Rental.
+27,760,000	789	306,616,000	8,372	

Program Synopsis

There are two major objectives associated with this activity:

a. To preserve and protect the natural and cultural resources contained in the 291 areas of the National Park System.

b. To make the natural and cultural resources of the National Park System available for use, inspiration and enjoyment by this and future generations.

The scope of the National Park System encompasses remote natural areas in Alaska, historic forts in the Southwest and recreation areas on the doorsteps of New York City. It includes the highest mountain in North America and the deepest valley. It includes prehistoric fossils in Colorado and Kitty Hawk in North Carolina. Park areas are located in 47 States, the District of Columbia, Puerto Rico, and the Virgin Islands. The thread that holds all these areas together is their outstanding natural and cultural significance.

The increases for operating the National Park System will emphasize the management of these unique resources and maintenance of nationally significant historic structures as well as the operation of visitor use and support facilities. Mushrooming visitation and newer areas added to the System require additional operating funds and staff.

Specific major changes to meet this workload include:

-- increased maintenance throughout the System

-- a prototype research and resources management program at Everglades National Park

-- a new program to provide emergency stabilization of historic structures

-- funding and staffing of newer areas

-- funding and staffing throughout the System to meet growing public demand for use.

A. Management of Park Areas

Fiscal year 1977, $32,912,000; Fiscal year 1978, $36,334,400; increase of $3,422,400.

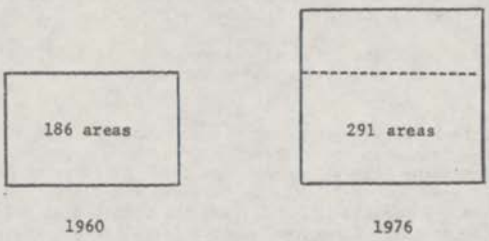
Major Program Changes

(1)	Park management and direction	+$3,422,400; total $36,334,400 +158 positions; total 1,390 positions

Proposal. This increase will provide funds and staff for management of parks, especially those more recently added to the System.

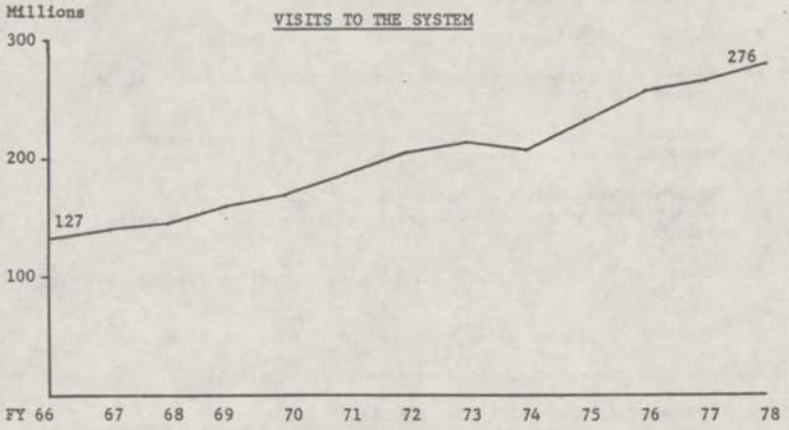
Justification. The need for park management funds and staff is influenced by the number of park areas and visitation. There have been 105 areas added to the System since 1960.

EXPANDING THE SYSTEM



Although management requirements are complex and demanding when parks are first established, Superintendents can often begin to manage the areas without substantial assistance. But as visitation and operations increase, management must become organized and systematic. Where the level of operations is large enough, the manager needs a small staff to help coordinate and administer maintenance, resources management, visitor services, and other park functions.

And visitation has been increasing throughout the System.



Furthermore, the Service must comply with recently enacted laws regarding environmental protection, public safety and health, and air and water pollution. Park operations must be coordinated with local, State and other Federal agency actions. These requirements add to the need for systematic park management.

About 18 percent of the increase for fiscal year 1978 will go to newer areas and for management support of the Student Conservation program. The newer areas which will receive funds and staff are:

	Amount	Positions
Congaree Swamp NM	$ 53,800	2
Ninety Six NHS	45,600	2
Valley Forge NHP	108,800	5
Big Cypress NPres	137,700	2
Klondike Gold Rush NHP	59,900	2
Student Conservation Program	205,000	--
Total	610,800	13

The Student Conservation program will permit 210 student assistants to work in 28 parks for the summer.

The remainder of the increase will go to older parks where visitation has been increasing rapidly or where it is needed to comply with laws or executive orders.

Cost Factors. The Service spends about 13 cents on park management for every visit to the System. Recently, a number of areas have been added to the System which are near urban areas and which contain former State or local parks. These areas need substantial management from the beginning.

The detailed financial basis of the requested increase follows:

(a) Eleven (11) permanent positions at new and recently authorized areas, $126,000.

(b) Supplies and materials, support and office equipment at new and recently authorized areas, $112,200.

(c) National Park Service share of one-half the costs of the Student Conservation program for 210 park assistants in 28 park areas, $205,000.

(d) Increased costs of supplies, materials, support and office equipment, $60,500.

(e) Permanent positions (147) at a cost of $2,422,000.

(f) Annualization of classified pay increase, $115,600.

(g) Increased cost of utilities, $16,900.

(h) Annualization of permanent positions authorized and partially funded in Fiscal 1977, $364,200.

Program Description. Park management consists of procurement, personnel management, budgeting, planning and other management and administrative functions. These activities provide needed support for park operations such as visitor protection, resources management, and maintenance. They allow park managers, who are closest to the situation, to develop solutions to the problems they face, and thus contribute to more effective management.

B. Concessions Management

Fiscal year 1977, $1,050,000; Fiscal year 1978, $1,050,000; no increase.

Major Program Changes

NONE	Total $1,050,000
	Total 60 positions

Proposal. This program will be carried on at the same funding level as in Fiscal 1977. Increases in workload will be absorbed.

Justification. No program changes.

Cost Factors. No program changes.

Program Description. Concessioners use private capital to supply food, lodging, gasoline and vehicle repairs, guided tours, transportation and other services within the parks. Many parks are located in remote areas where regular commercial services are scarce. Moreover, some parks are so large that it is unreasonable to expect visitors to drive outside the park to find food, gasoline or other goods and services.

Since private capital is used, the Service does not have to use its limited money to meet these visitor needs. The concessioners benefit by being granted a prime business location. In return, the Service is paid a fee, and it expects the concessioner to provide quality goods and services to the visitor at a fair price.

Concessions management assures that these expectations are realized. It consists of: solicitation, negotiation, and review of concessions contracts and audit and analysis of concessioner prices to insure that they are reasonable and fair. Concessions management also includes inspection of concessions to assure that fire, health, and safety codes are being met and that Government-owned, concessioner-used facilities are being properly maintained. The Service monitors concessioners to assure high quality services for the visitor.

The Service must manage 380 different concessioners operating in 89 areas of the National Park System. In 1976 these concessioners paid the Service approximately $2.4 million for the privilege of operating in the parks. Sales revenues have grown rapidly in the past few years.

	Concession Sales ($ millions)				
Year	1974	1975	1976 (Est.)	1977 (Est.)	1978 (Est.)
Sales	130	151	177	192	211

The National Park Service spends, on the average, about $2,600 a year to manage each concessioner. In Fiscal 1978, for every $10 a visitor will spend at a concession, the Service will allocate an average of about 5 cents for concessions management.

C. Interpretive Services

Fiscal year 1977, $31,511,000; Fiscal year 1978, $34,160,300; increase of $2,649,300.

Major Program Changes

(1) Visitor Interpretive Services	+$2,649,300; total $34,160,300 +110 positions; total 1,052

Proposal. This increase will provide additional funds and staffing for visitor interpretive services primarily at recently authorized areas. At existing parks, expanded visitor facilities will be staffed.

Justification. Interpretive services help visitors understand the park and thus contribute to their enjoyment and use of the parks. These services provide:

a. an awareness and understanding of historical, cultural, and natural resources which are the reasons why the area is nationally significant.

b. an appreciation of the need to protect these resources.

c. a knowledge of the safety and visitor protection considerations relating to any interaction with the resource.

d. an understanding of options for use of the parks.

Interpretive services are especially needed at newer areas. This increase will fund interpretive services at the following newer parks:

	Amount	Positions
Big Thicket NPres.	$ 43,200	1
Boston NHP	51,600	5
Cape Lookout NS	26,700	--
Valley Forge NHP	452,100	15
Total	573,600	21

The remaining increases for interpretive services will be used to staff new facilities and to meet visitor demand A renewed emphasis on interpretive services will help prevent abuse of park resources.

Cost Factors. The National Park Service will spend about 12 cents per visit on interpretive services.

A detailed analysis of cost factors for this increase follows:

(a) Twenty-one (21) permanent positions at new and recently authorized areas, $279,100

(b) Eleven (11) work-years of seasonal employment at new and recently authorized areas, $144,300.

(c) Nine work-years of seasonal employment, $101,300.

(d) Supplies and materials, support and office equipment at new and recently authorized areas, to support interpretive programs, $122,300.

(e) Increased cost of supplies and materials, $77,100.

(f) Eighty-nine (89) permanent positions at a cost of $1,466,000.

(g) Annualization of classified pay increase, $90,000.

(h) Annualization of permanent positions authorized and partially funded in fiscal 1977, $353,000.

(i) Acquisition of audiovisual and seismic surveillance equipment for park interpretive programs, $16,200.

Program Description. The purpose of this program is to communicate an understanding and appreciation of parks, their significant historic, natural and cultural values, and appropriate safety and visitor/resources protection considerations. An effective interpretive program is essential both to the preservation of the parks and to public enjoyment of park resources. The attitudes of visitors toward parks and the way in which each visitor experiences and uses a park is largely shaped by the park's interpretive services and programs.

D. Visitor Protection and Safety

Fiscal year 1977, $34,637,000; Fiscal year 1978, $38,514,300; increase of $3,877,300.

Major Program Changes

(1) Visitor Protection and Safety	+$3,877,300; total $38,514,300 +150 positions; total 1,638 positions

Proposal. Much of the proposed increase will be used to expand visitor protection and safety efforts at newer areas. The remainder will be used to maintain the level of existing efforts, to expand those efforts where the need is critical, and in a few instances, to restore funding previously reduced.

The scope of the visitor protection and safety workload can be demonstrated by a few statistics from 1975: 1,031 burglaries, 2,946 grand larcenies, 385 assaults, 4,175 instances of vandalism, 2,250 search and rescues, and 7,756 motor vehicle accidents. Visitor protection and safety needs have increased with the recent addition of urban areas.

Justification. If the Service is to meet its congressional mandate to make the parks available for use and enjoyment, it must assure the public a safe visit and employees a safe working environment.

Visitors sometimes get themselves into difficulties because of their unfamiliarity with parks. Many visitors have an urban or suburban background and either do not understand or underestimate the natural hazards in parks. The growing popularity of physically demanding sports such as rock climbing, skin diving, skiing, and backpacking also results in an increase in the Government's responsibilities for visitor protection and safety.

Increases at 2 newer areas will account for $220,300 of the increased funding. Examples of other increases requested include the following: Bent's Old Fort NHS, onsite protection will be provided for the antiques, relics, and artifacts at the fort: Joshua Tree NM, patrols to remote areas will be provided and Channel Islands NM to maintain protection at current levels.

Cost Factors. Visitation is the primary cost factor. For fiscal 1978 the Service will spend about 14 cents per visit on visitor protection and safety. A more detailed financial basis of the increase includes:

(a) Eight (8) permanent positions at new and recently authorized areas, $130,500.

(b) 8.2 work-years of seasonal employment at new and recently authorized areas, $97,400.

(c) 142 permanent positions at a cost of $2,339,000.

(d) Annualization of classified pay increase, $139,000.

(e) Equipment, supplies and materials for visitor protection and safety at new and recently authorized areas, $83,400.

(f) Increased payment to U.S. Park Police Pension Fund because of 12 projected retirees from U.S. Park Police, $173,300.

(g) Annualization of permanent positions authorized and partially funded in fiscal 1977, $148,400.

(h) Increases in cost of supplies and materials, $36,300.

(i) Park Police pay increase, $730,000.

Program Description. This program supports search and rescue operations, basic police and fire protection and safety and accident prevention activities. These functions are an integral part of the management of every park and are vital to the visitors' safe enjoyment of their parks.

E. Maintenance

Fiscal year 1977, $130,888,000; Fiscal year 1978, $142,589,400; increase of $11,701,400.

Major Program Changes

(1)	Maintenance of Park Areas, Resources and Facilities	+$11,701,400; total $142,589,400 +300 positions; total 3,475 positions

Proposal. This increase will provide staff and funding to perform maintenance Systemwide to protect and preserve resources and to provide a safe, healthy park environment to the expected 276 million visitors in fiscal 1978. This increase will be used:

a. to meet maintenance requirements in over 30 areas not yet fully operational.

b. to repair and rehabilitate facilities and historic structures in established parks.

c. to repair facilities on a cyclic basis, where this is most economical.

The maintenance workload involves operations, repair and upkeep of 7,600 miles of primary visitor access roads, 2,600 miles of secondary roads, over 10,000 miles of hiking, biking and riding trails, 1,100 bridges, over 9,000 buildings containing 16 million square feet of floor area, 1,150 water supply systems, plus a large inventory of campsites, beaches, monuments, solid waste facilities, sign markers and equipment.

Justification. Visitor use and support facilities and historic structures must be maintained. The Federal Government has a sizeable investment in these facilities. Historic structures will deteriorate and perhaps be lost if they are not properly cared for. Visitor safety can be jeopardized if facilities are not kept in good condition.

Recently authorized areas account for $2,266,000 of the requested increase. Those newer areas with substantial needs include:

Big Cypress NPres.	$ 36,000
Big Thicket NPres.	112,000
Boston NHP	91,000
Canaveral NS	110,000
Cuyahoga Valley NRA	195,000
Gateway NRA	125,000
Klondike Gold Rush NHP	346,000
Ninety Six NHS	54,000
Valley Forge NHP	1,197,000
Total	$2,266,000

At older areas in the System the increase of approximately $5.4 million will be used to repair roads and trails, correct safety hazards, repair and upgrade visitor use buildings, stabilize historic structures, repair and operate utility systems and to maintain and operate sewerage systems.

Hundreds of facilities constructed during the Mission 66 program are now approaching 20 years of age and are at the stage where operational maintenance is a major task.

Certain facilities (roads, buildings, heating and air-conditioning systems) perform better and last longer when maintained on a regular basis. Recognizing this, the Service uses a cyclic maintenance program to repair these facilities. Cyclic maintenance such as painting, resurfacing and reroofing is done on cycles usually from 2 to 10 or more years. This work can be contracted and, as a result, the fund is controlled in regional offices. This year, approximately $4 million will be added to the cyclic maintenance program.

Cost Factors. Where possible maintenance is contracted. Adquate maintenance postpones more costly major repair and reconstruction. The Service spends about 51 cents per visit on maintenance because properly maintained facilities and clean parks are perhaps the single most important factor in the visitors' impressions of the Service being responsible to its mandate to provide for enjoyable use and to preserve the resource.

A detailed financial analysis of the $11,701,400 increase:

(a) Forty-one (41) permanent positions at new and recently authorized areas, $1,293,800.

(b) Twenty (20) work-years of seasonal employment, $240,200.

(c) Cost of utilities in new facilities and newer areas, $64,300.

(d) Contract cyclic programming for resealing and resurfacing roadways, $1,416,000.

(e) Contract cyclic maintenance for repair and rehabilitation of buildings, structures and other facilities, $2,661,400.

(f) 259 permanent positions at a cost of $4,267,000.

(g) Annualization of permanent positions authorized and partially funded in fiscal 1977, $127,500.

(h) Other contractual services for trash pickup, garbage disposal and vehicle maintenance, $75,900.

(i) Supplies, materials and other support costs at new and recently authorized areas, $679,100.

(j) Purchase of equipment for newly authorized areas, $436,200.

(k) Increased costs of utilities, fuel oil, gasoline and materials in existing areas, $139,000.

(l) Increased cost for maintenance and stabilization of historic ruins, structures and objects, $301,000.

83-561 O - 77 - 33

Program Description. Maintenance funds are used to repair roads and trails, to maintain buildings including historic structures, and to keep utility systems operating. Nearly half of the "Operation of the National Park System" appropriation is allocated to maintenance. The Service employs a cadre of maintenance personnel, including civil and mechanical engineers, but much of the work during the summer is done by temporary employees. This has proven to be the most cost effective way to maintain park facilities.

F. Resource Management

Fiscal year 1977, $40,022,000; Fiscal year 1978, $45,288,600; increase of $5,266,600.

Major Program Changes

(1) Resources Management	+$5,266,600; total $45,288,600 +71 positions, total 727 positions

Proposal. This increase will provide funding and personnel for more effective management of natural and cultural resources Systemwide by:

1. Establishing a historic resources preservation program - $1,521,700

2. Conducting a prototype research and resources management project at Everglades National Park - $1,929,000.

3. Managing resources throughout the System, particularly at newer areas - $1,815,900.

Justification. The National Park Service was established, in part, to manage unique and irreplaceable resources. Resources management programs are a method of accomplishing this objective.

The increase for the preservation of historic resources will be spent to repair historic structures and archeological ruins where repairs are urgently needed to prevent further deterioration. Examples of projects in the fiscal year program include stabilization of the Russian Mission at Sitka National Historical Park, the Pueblo Alto Ruins at Chaco Canyon National Monument and of newly acquired historic structures at Lincoln Home National Memorial.

A prototype research and resources management program will be undertaken at Everglades National Park. Its purpose is to investigate the hydrology of the park and recommend methods to protect both the quantity and quality of water flowing through the park. There is great potential risk of irreparable damage to the delicate ecosystems of this park. This research will point out ways of reducing this risk.

At a number of newer areas resources management needs remain unmet. This increase will help correct this condition in nine areas. For example, stream flow will be monitored and timber harvests reviewed at Redwood National Park, feral animals will be removed at Cumberland Island National Seashore, and at Voyageurs National Park, a new area, consisting of more than 120,000 acres with 100 remore campsites, will be partolled.

Cost Factors. Both visitation and acreage influence the need for resources management. Increased visitation results in additional pressure on the resources. In fiscal 1978 the Service will spend about 16 cents per visit on resources management.

Increased acreage means more resources to be protected. The Service will have one permanent employee assigned to resources management for each 46,000 acres of land.

A detailed analysis of the financial basis of the request follows:

(a) Five (5) permanent positions at new and recently authorized areas, $74,600.

(b) 7.1 work-years of seasonal employment, $89,700.

(c) Accelerated research and resources management program to search for answers to critical environmental impacts and resource problems at Everglades National Park, $1,929,000.

(d) Increased cost of supplies, materials and office equipment, $39,600.

(e) Increased costs for pesticide and fire management problems, $63,100.

(f) Sixty-six (66) permanent positions at a cost of $1,087,400.

(g) Annualization of classified pay increase, $65,000.

(h) Annualization of permanent positions authorized and partially funded in fiscal 1977, $202,100.

(i) Contracts related to specialized studies, such as endangered species studies, $194,400.

(j) Increased cost for the preservation of endangered, irreplaceable historic and cultural resources, $1,521,700.

Program Description. The 291 areas of the National Park System contain a diverse inventory of fragile and irreplaceable natural and cultural resources. These diverse resources include endangered species such as the pup fish, bald eagle and alligator; forest and grasslands; unique natural geological features and formations; and archeological and historic structures, and artifacts. Problems arise in resource protection with heavy visitor use, vandalism, poaching, commercial development near parks, mining and other types of resource exploitation, and with the spread of noxious or exotic species of plants and animals. Resources management reduces the danger of damage to the resource because of these problems.

G. Informational Publications

Fiscal year 1977, $1,698,000; Fiscal year 1978, $1,698,000; no change.

Major Program Changes
NONE

Total $1,698,000
Total 30 positions

Proposal. This program will be carried on at the same level as in fiscal 1977. Increases in costs will be offset by increases in productivity.

Justification. No major program changes.

Cost Factors. No major program changes.

Program Description. Informational publications are given or sold to park visitors to help them understand the purposes for the park and how best to use it. These pamphlets, folders, posters, and booklets explain the uniqueness and value of the area; direct the visitor to major features; warn of safety hazards; and advise the visitor where food, lodging, and other services may be obtained.

Three types of publications are produced: (1) a small, but informative folder given to park visitors; (2) guidebooks, handbooks, and posters sold at reasonable prices to those visitors who want specialized information beyond the initial folder; and (3) books and other publications sold through the Government Printing Office, particularly to students for school-related activities and to vacationers planning trips to the parks.

National Park Service publications sell well. In fiscal 1976 nearly $1 million in revenue was generated from the sale of these publications.

The Service plans to produce 285 separate publications in fiscal 1978 with a gross printing of 25 million copies. By far the greater number of these are free mini-folders for the visitor.

H. Volunteers-in-Parks

Fiscal year 1977, $250,000; Fiscal year 1978, $250,000; no change.

Major Program Changes
NONE Total $250,000

Proposal. This program will be carried on at the same funding level as in fiscal 1977.

Justification. No program change.

Cost Factors. No program change.

Program Description. The Volunteers-in-Parks (VIP) program, authorized by Public Law 91-357, as amended, provides the means for interested individuals to donate their time and specialized expertise to Service programs. The legislation provided for reimbursement of incidental costs incurred by the volunteers, such as historic costumes, uniforms, meals, lodging and local travel. While the legislation prohibits volunteers from substituting for permanent or seasonal employment, thousands of volunteers have contributed their time and talents in living history, arts and crafts, archeological and environmental studies programs. The following table illustrates the program history to date.

VIP Program History

Fiscal Year	1971	1972	1973	1974	1975	1976
Service Hours	42,542	197,213	254,580	306,778	310,203	369,451
Appropriation	$54,000	$100,000	$100,000	$100,000	$100,000	$250,000
Cost Per Hour	$1.26	$.50	$.39	$.32	$.32	$.68

The Volunteers-in-Park program is one of the least costly and most effective visitor orientation and interpretation activities conducted in park areas. It complements existing park programs and enables visitors to more fully appreciate and enjoy natural and cultural resources.

Recent accomplishments include:

(a) The VIP Program has been extended to 187 areas of the National Park System.

(b) Volunteer astronomers, through the assistance and cooperation of the American Astronomical Society, explain astronomy to visitors.

(c) Extensive Bicentennial programs were conducted at over 100 areas. Programs include the environmental living program at Minute Man National Historical Park and volunteers who assist school children in learning about living conditions of people at the time of the American Revolution.

(d) At Sequoia and Kings Canyon National Parks, volunteers presented a look at American history through the eyes of such figures as Kit Carson, John Muir, John Fremont, and Mark Twain at evening campfires.

(e) At Golden Gate National Recreation Area, volunteers assisted at resident camps for children from San Francisco in which they learned through games, plays, crafts and other media about eight American Presidents whose decisions, especially in regard to the environment and to California, influenced far reaching changes in the history of our country.

I. Employees Compensation Fund Payments

Fiscal year 1977, $974,000; Fiscal year 1978, $1,534,000; increase of $560,000.

Major Program Changes

(1) Employees Compensation Fund Payments	+$560,000; total $1,534,000

Proposal. Provide funding to reimburse the Employees Compensation Fund (Department of Labor) for costs of compensation and medical payments made to employees during fiscal 1976 for injuries or deaths sustained.

Justification. Cost of compensation and medical benefits has increased over prior years due, in part, to higher salary levels which form the basis for compensation, mandatory cost-of-living increases, and the increased cost of medical care. Compensation costs for injuries have increased, and more importantly, both initial claims for compensation and long-term disability and death cases have increased.

Cost Factors. Increase of $560,000 is based on actual employees compensation and medical benefit payments paid in fiscal 1976 by the Department of Labor.

Program Description. Under the Employees Compensation Fund Act, Federal employees are entitled to compensation for injury or death suffered while in a duty status. Payments of injury related medical expenses are also authorized. Funds requested will be used to reimburse the Department of Labor for employees compensation and medical costs paid out in accordance with provision of the Employees Compensation Fund Act during fiscal 1976.

J. GSA Space Rental

Fiscal year 1977, $4,914,000; Fiscal year 1978, $5,197,000; increase of $283,000.

Major Program Changes

(1) GSA Space Rental	+$283,000; total $5,197,000

Proposal. Provide funding to cover increased cost of rented space provided by General Services Administration.

Justification. Unit cost of rented space, needed and used in support of National Park Service programs, has increased by more than 10 percent thus offsetting savings realized through space reduction and increasing total needs by $283,000.

Cost Factors.

	Square Feet of Space Rented	Unit Cost	Total Cost
FY 1978	940,000	$5.5287	$5,197,000
FY 1977	980,000	5.0143	4,914,000
Net Change	-40,000	+$0.5144	+$ 283,000

Program Description. Under this program, space is rented through the General Services Administration to support mission and administrative operations of the National Park Service.

2. Forest Fire Suppression and Rehabilitation of Burned Areas: Fiscal year 1977, $700,000; Fiscal year 1978, $700,000; no change.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) --	--	$700,000	--	Presuppression, suppression of forest fires and rehabilitation of burned areas.

Program Synopsis

Throughout the National Park System there are numerous forested areas which must be protected from wildfire and human-caused fires. Funds made available under this activity are used for fire prevention, suppression and burned area rehabilitation.

A. Forest Fire Suppression and Rehabilitation of Burned Areas

Fiscal year 1977, $700,000; Fiscal year 1978, $700,000; no change.

Major Program Changes
NONE

Total $700,000
No positions

Proposal. This program will be carried on at the same funding level as in fiscal 1977.

Justification. No program change.

Cost Factors. No program change.

Program Description. The National Park System contains millions of acres of forests and grasslands where wildfires and human-caused fires must be prevented or suppressed if the natural qualities of these areas are to be preserved. The following table indicates the number of fires and the amount of land that burned over the past 2 years:

	Calendar Years 1974	1975
Number of Fires	675	648
Number of Acres Burned	91,907	17,742

Suppression activities involve the actual fighting of forest fires while presuppression includes increasing protection forces during periods of critical fire danger. After a fire, clearing, reseeding and other rehabilitation work are necessary to reduce danger to human life and to conserve resources.

Increased year-round visitation, particularly in back-country and wilderness areas, heightens the risk of human-caused fires. The Service has recently revised its fire management program to stress fire prevention to visitors. When fires occur, rehabilitation will be accomplished as soon as possible to return the area to its natural state and allow visitors to continue to use and enjoy the area.

The Service provides personnel to Department of the Interior fire teams. These teams are composed of highly experienced and trained fire fighters from the Bureau of Land Management, Bureau of Indian Affairs, and the National Park Service. The teams serve as the fire managing force on critical fires on all Departmental lands. These teams result in the best qualified personnel in the Department being dispatched to the most serious fires. Interagency cooperation assists in keeping serious fire losses to a minimum.

3. Executive Direction: Fiscal year 1977, $5,937,000; Fiscal year 1978, $5,939,000; increase of $2,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) +2,000	--	$5,939,000	184	Executive Direction of National Park System and programs.

Program Synopsis

This program provides overall executive direction of the National Park Service. Organizationally this direction is provided through a central office in Washington, and nine regional offices. Program managers in these offices develop policies, establish priorities, and allocate resources for the National Park System in response to Congressional and Administration policy. To accomplish these managerial tasks, Service managers respond to legislative proposals, manage personnel and property, and assure efficient use of appropriated funds.

A. Executive Direction

Fiscal year 1977, $5,937,000; Fiscal year 1978, $5,939,000; increase of $2,000.

Major Program Changes

(1) Executive Direction +$2,000; Total $5,939,000
Total 184 positions

Proposal. Provide funds for annualization of classified pay increase.

Justification. Required to annualize classified pay increase.

Cost Factors. Annualization of classified pay increase $2,000.

Program Description. The Service manages the National Park System using a decentralized Management by Objectives system. This permits park managers to set objectives for their parks and to request funding and staffing required to meet park objectives. Regional and central office managers review these objectives and requests to assure that they are in conformance with overall Service policy as set by the Director of the National Park Service and with Congressional and Administration policy. Program managers also review the existing allocation of resources to determine if they are being used in the most cost-effective manner possible.

4. Park, Recreation and Wilderness Planning: Fiscal year 1977, $3,469,000; Fiscal year 1978, $3,726,000; increase of $257,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) +$4,000	--	$204,000	3	Natural Landmark Studies
(B) + 5,000	--	105,000	4	New Area Studies
(C) +14,000	--	442,000	11	Land Use Studies
(D) +14,000	--	699,000	11	Water Resources Studies
(E)+220,000	--	2,276,000	69	Preparation of General Management Plans
+257,000	--	3,726,000	98	

Program Synopsis

The National Park System contains unique and irreplaceable resources. The Service is charged with the responsibility of protecting these resources for future generations. But the Service is also charged with the responsibility to provide for public use of these resources. Careful planning is therefore vital if the Service is to discharge these responsibilities.

The Service prepares general management plans to set guidelines for resources management, visitor use, and development. The Service also studies land and water resources to assure proper resources management. Outside the System the Service evaluates and recognizes natural landmarks to foster a greater concern in their preservation. Finally, the Service studies areas proposed for addition to the National Park System to determine their national significance and the cost of acquisition and development.

A. Natural Landmark Studies

Fiscal year 1977, $200,000; Fiscal year 1978, $204,000; increase of $4,000.

Major Program Changes

(1) Natural Landmarks — +$4,000; total $204,000
Total 3 positions

Proposal. Provide funds for annualization of classified pay increase.

Justification. Required to annualize classified pay increase.

Cost Factors. Annualization of classified pay increase $4,000.

Program Description. The Natural Landmarks Program identifies and registers natural landmarks and encourages the preservation of nationally significant natural areas regardless of ownership. Natural landmark registration is voluntary and does not change ownership.

The objectives of the program are to: Encourage the preservation of sites illustrating the geological and ecological character of the United States; foster appreciation of natural history; enhance the educational and scientific value of sites preserved; and encourage a greater concern for the conservation of the Nation's natural heritage.

In order to identify potential natural landmarks, the Service has undertaken a series of natural regions studies. All natural areas representing a particular natural history theme in a given natural region are studied. It is necessary that each recommended site be visited by a competent scientist and a written evaluation of the site be made. Only those having exceptional value in illustrating the natural heritage of our Nation are recommended as potentially eligible for inclusion in the National Registry of Natural Landmarks.

B. New Area Studies

Fiscal year 1977, $100,000; Fiscal year 1978, $105,000; increase of $5,000.

Major Program Changes

(1) New Area Studies	+$5,000; total $105,000 Total 4 positions

Proposal. Provide funds for annualization of classified pay increase.

Justification. Required to annualize classified pay increase.

Cost Factors. Annualization of classified pay increase $5,000.

Program Description. Under this program the National Park Service investigates, evaluates, and subsequently makes recommendations to the Congress relating to proposals to add new units to the National Park System. These proposals arise from suggestions of citizens, citizen organizatons, and citizen advisory groups; through natural and historical theme studies conducted by the National Park Service; and as a result of studies required by Acts of Congress (such as the Wild and Scenic Rivers Act and the National Trails System Act). A considerable portion of the workload, however, arises from inquiries and requests from individual Members of Congress and Congressional Committees concerning proposed and pending legislation. At any given time approximately 200 proposals for additions to the System may be under various stages of consideration and review. This is not to suggest that the National Park Service would recommend such an expansion of the System. The careful screening of these proposals for the purpose of identifying only the most suitable and feasible proposals oftentimes involve as much investigation and evaluation for negative recommendations as for positive ones. Consequently, no proposal can be reviewed lightly regardless of the apparent lack of viability.

C. Land Use Studies

Fiscal year 1977, $428,000; Fiscal year 1978, $442,000; increase of $14,000.

Major Program Changes

(1) Land Use Studies	+$14,000; total $428,000 Total 11 positions

Proposal. Provide funds for annualization of classified pay increase.

Justification. Required to annualize classified pay increase.

Cost Factors. Annualization of classified pay increase $14,000.

Program Description. The National Park Service studies areas which have been proposed for addition to the National Park System. The Service also studies proposals to amend previously authorized areas in the form of boundary adjustments and/or statutory limitation increases. One facet of these studies involves the development of land cost procedures and estimating the value of the land included in the proposed park area.

While the land acquisition program of the National Park Service is funded from the Land and Water Conservation Fund, the legislation establishing this Fund does not authorize the use of these monies for any preacquisition work prior to passage of area legislation. Therefore, the funds requested herein are essential to accomplish preauthorization land acquisition work which is necessary in order to provide a meaningful evaluation of the areas being considered. This requirement is further emphasized because of the changing land values throughout the country which accentuate the need for accurate and up-to-date cost estimates.

D. Water Resources Studies

Fiscal year 1977, $685,000; Fiscal year 1978, $699,000; increase of $14,000.

Major Program Changes	
(1) Water Resources	+$14,000; total $699,000 Total 11 positions

Proposal. Provide funds for annualization of classified pay increase.

Justification. Required to annualize classified pay increase.

Cost Factors. Annualization of classified pay increase $14,000.

Program Description. The water resources program is directed toward matters dealing with all water, including wastewater, its occurrence, quantity, uses, disposals, reuse, conservation and overall protection. The results of water resource studies are used for the proper planning, development and management of park areas.

Hydrologic studies identify known water sources--their present use and development, their physical characteristics and their potentials. These studies are done in cooperation with other Federal agencies, principally the Geological Survey, or by contract with State agencies, universities or private consultants. A limited number of studies are made by Service personnel. The studies describe the geology of the area, evaluate the ground and surface water potentials, estimate the minimum yield of streams, springs and wells, and identify potential effects of use on the environment.

Also required is a knowledge of the ownership and legal limits to which water resources may be utilized. To this end, the Service investigates ownership, rights and use of water in all parks in order to facilitate the protection and the perfection of water rights. The Service inventories water rights in and

adjacent to park areas, and reviews or participates in preparation of special use permits to assure that water resources and rights and use of the park water are consistent with Service policies. This assures that Federal rights are protected and that no adverse effect to the environment will occur. Pre-litigation studies of water resources and related water rights are made as necessary for the Solicitor's Office or the Justice Department. Water resources data are collected to satisfy requirements of court decisions. Recent Supreme Court decisions have required the Service and other Federal agencies to enter adjudication proceedings in State courts and may require quantification of water rights.

E. General Management Plans

Fiscal year 1977, $2,056,000; Fiscal year 1978, $2,276,000; increase of $220,000.

Major Program Changes	
(1) General Management Plans	+$220,000; total $2,276,000 Total 69 positions

Proposal. This increase will help defray the additional costs of public participation in the Service's planning process.

Justification. Legislation and court rulings require public participation in planning. The Service involves the public by holding public meetings, by distribution of planning documents to those who request them and by making a special effort to assure that the average citizen has a voice in planning for park use. This increase is also needed because planning for use at large urban recreation areas is complex, time-consuming, and controversial. The addition of Cuyahoga Valley, Golden Gate and Gateway means that even more citizens will be involved in the planning process.

Cost Factors. Cost of planning depends on the size of the area, the population near the area, the resources to be preserved, potential public use, and whether the area is nationally known or not. The financial basis of the proposal include printing, materials and supplies, and support costs in the amount of $131,000. It also includes $89,000 for annualization of classified pay costs.

Program Description. The General Management Plan is the parkwide plan for meeting the management objectives of the park and represents the focal point of the Service's planning effort. It charts a long-range strategy for resource management, visitor use, and development at a level of detail that will allow implementation of the proposed actions. The General Management Plan also defines what is required to ensure compliance with relevant legislation and administrative policies and procedures.

The General Management Plan contains the park's Statement for Management--as revised during the planning effort--and three interrelated parkwide plans: The Resources Management Plan, outlining methods for protecting, perpetuating, and preserving natural and cultural resources; the Visitor Use Plan, outlining the methods for interpreting park resources, for providing for visitor use and safety, and for supplying information and support services; and the General Development Plan, outlining development necessary to accomplish the Resources Management Plan.

The National Environmental Policy Act of 1969 requires that agencies utilize a systematic, interdisciplinary approach to planning and decision making. The Service, in consultation with the Council on Environmental Quality, has determined that a broadly based systematic approach to planning, which is developed in a regional context at the earliest possible time in the planning cycle, is an effective means of implementing the Act. Enabling legislation of numerous park areas requires the formulation of such plans. Legislation such as the Wilderness Act of 1964 was implemented through systematic studies which identified lands to be recommended as suitable for wilderness designation.

Plans, environmental assessments, and the process that produces these documents address the national problem of land use and conservation of the Nation's natural, recreational, and historic resources. Changes in national goals and visitor use patterns along with a rising national concern for environmental issues require that the National Park Service thoroughly examine and find solutions for a variety of complex problems. Specific items which must be dealt with in order to solve environmental, use, and operating problems include basic land utilization considerations such as access and transportation of visitors, providing park and recreation areas in urban areas close to where people live and work, physical facilities development, classification of lands, environmental assessment and impact of various alternatives and proposals, visitor use capacity, and the appropriate approach to administration.

5. Cooperative Programs. Fiscal year 1977, $2,925,000; Fiscal year 1978, $4,178,000; increase of $1,253,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+ 33,000	--	$1,157,000	25	Federal Agency, State and Private Assistance - continuing program.
(B)+ 17,000	--	288,000	13	Indian Assistance Program - continuing program.
(C)+ 11,000	--	216,000	8	Environmental Impact Statement Review - continuing program.
(D)+1,192,000	--	2,517,000	13	Alaska Native Claims Settlement Act.
+1,253,000	--	4,178,000	59	

Program Synopsis

Because of its expertise, the National Park Service has a nationwide responsibility to cooperate with Federal, State, local and private organizations in natural and historic resource planning, management, protection and preservation. The Service's responsibility has been mandated by acts of Congress, Executive Orders, directives from the Secretary of the Interior, or by interagency agreements.

In the Federal sector, the Service participates in land use and water resource planning studies and reviews land use and water resource development reports. It provides assistance in other matters related to the planning, development, management, and operation of parks, historic sites and recreation areas. The Service is also responsible for review of the environmental impact statements of other Federal agencies.

In the State, local and private sectors, the Service provides assistance and training in the planning, management, interpretation and protection of natural, historical, and recreational areas.

The National Park Service also provides technical assistance and training upon request to Indian tribes for recreation planning, historic and archeological resource management, and museum management.

The Service is responsible for studies, legislative support data, planning, and support activities related to the withdrawal of lands in Alaska for inclusion in the National Park System.

A. Federal Agency, State and Private Assistance

Fiscal year 1977, $1,124,000; Fiscal year 1978, $1,157,000; increase of $33,000.

Major Program Changes

(1) Federal Agency, State and Private Assistance	+$33,000;	total	$1,157,000
		Total	25 positions

Proposal. Provide funds for annualization of classified pay increase.

Justification. Required to annualize classified pay increase.

Cost Factors. Annualization of classified pay increase $33,000.

Program Description. Federal Agency Assistance and Coordination. The National Park Service is required by the Department of the Interior to participate in land use and water resource planning studies. This includes identification, analysis, and evaluation of natural, cultural, and scenic values. The Service also reviews land use and water resource reports prepared by other Federal agencies or by States in implementing Federal programs. Such review assures proper consideration for the protection of units of the National Park System, national historic and natural landmarks, other significant natural, cultural, and esthetic values and for compliance with the Historic Preservation Act of 1966.

The following is a table showing workload factors of planning and review programs:

	FY 74	FY 75	FY 76	est. FY 77	est. FY 78
Participation or assistance in studies and programs	32	36	65	72	90
Review of studies and programs	13	28	40	36	30
Review of applications for National Recreation Trail	3	4	24	35	40
Review of notices and applications for permits	5,053	7,896	11,555	14,861	16,001
State Outdoor Recreation Plans: Provide Program Data	8	6	7	7	7
Review Plans	12	16	14	10	10
Preparation of reservoir recreation plans for the Bureau of Reclamation	7	49	21	7	7
Recreation Planning for the Corps of Engineers	18	37	24	26	26
Other miscellaneous requests	25	74	43	20	22

Examples of studies and programs included in the workload data are: National Scenic Trail studies, Wild and Scenic River Studies, River Basin studies and the Coastal Zone Management Program. Other special planning studies involve the Northern Great Plains Resource Program, Water Resources Council, Urban Park Study, Great Lakes Basin, New England River Basins Commission, and Bureau of Outdoor Recreation studies.

The Service reviews notices and application permits of the Corps of Engineers, the Soil Conservation Service, Federal Power Commission, Environmental Protection Agency, the U.S. Coast Guard, and State Highway Departments.

Miscellaneous requests for assistance come from the Fish and Wildlife Service, the Bureau of Outdoor Recreation, the Geological Survey, the Bureau of Reclamation, the Forest Service, the Department of Housing and Urban Development and the Board on Geographic Names.

State and Private Assistance. National Park Service expertise has been made available to State and local governments and private organizations under the authority of various public laws, Executive and Departmental directives, and an interagency agreement. Under this program the Service provides assistance in planning, managing, interpreting, and protecting important natural, historic, and recreation areas. It also provides for the training of park and recreation personnel at the NPS Institute for Park and Recreation Management. The Service publishes four technical periodicals for the intergovernmental park and recreation community.

The following are workload factors of the various programs:

	FY 74	FY 75	FY 76	est. FY 77	est. FY 78
1. Requests for assistance:					
State	67	86	136	70	71
Local	44	71	151	99	104
Private	33	36	84	89	89
2. Publications	19	15	14	15	15

Examples of the type of work done in this program are:

1. Institution of regional planning concepts utilizing the expertise of numerous governmental and private organizations.

2. Planning assistance to States on facilities location at State parks.

3. Advice and planning assistance to local governments.

4. Participation in interagency planning meetings of groups such as the D.C. Metropolitan Area Council of Governments, D.C. Zoning Commission, D.C. Traffic Committees, and D.C. Community Services Advisory Committee.

B. Indian Assistance Program

Fiscal year 1977, $271,000; Fiscal year 1978, $288,000; increase of $17,000.

83-561 O - 77 - 34

Major Program Changes

(1) Indian Assistance Programs	+$17,000;	total	$271,000
		Total	13 positions

Proposal. Provide funds for annualization of classified pay increase.

Justification. Required to annualize classified pay increase.

Cost Factors. Annualization of classified pay increase $17,000.

Program Description. Under a Department of the Interior directive, the National Park Service provides upon request, advice, technical assistance, and training to Indian tribes. The program includes recreation planning, and advice on development and operation of recreation areas and facilities, museum management, ruins stabilization, and archeological and historical surveys.

Native groups in Alaska have completed their land selection under the Alaska Native Claims Settlement Act. Potentially there are 12 regional corporations and approximately 200 villages which could request technical assistance.

Examples of the type of work done under this program are:

1. Assistance to the California Inter-Tribal Council in obtaining grants for community facilities for small reservations.

2. Planning for a campground at the Red Cliff Indian Reservation in Wisconsin.

3. Training of personnel and resources inventory for the Navajo Tribe.

4. Assistance on the Walpi Village Restoration and the Hopi Civic Center.

5. Study for a comprehensive water plan for the Southern Ute and Ute Mountain Tribes.

6. Provision of land use data for use by the Pyramid Lake Indian Reservation to decide on the location of recreational or industrial facilities having minimal impact on natural and cultural resources.

C. Environmental Impact Statement Review

Fiscal year 1977, $205,000; Fiscal year 1978, $216,000; increase of $11,000.

Major Program Changes

(1) Environmental Impact Statement Review	+$11,000;	total	$216,000
		Total	8 positions

Proposal. Provide funds for annualization of classified pay increase.

Justification. Required to annualize classified pay increase.

Cost Factors. Annualization of classified pay increase $11,000.

Program Description. The National Park Service review of Federal agency environmental impact statements and their assessments is required by law. The Service has the expertise necessary to comment on proposed Federal actions in the areas

of energy and natural resources development, land use management, historic, archeological, and architectural preservation and outdoor recreation. After review the Service advises other Federal agencies how best to assess and mitigate impact on significant natural, recreational and cultural resources. The Service also evaluates the effect of proposed Federal actions on units of the National Park System, properties listed on the National Register of Historic Places, and properties identified as national natural landmarks. This program is coordinated with all other agencies that prepare environmental impact statements. Thus, interagency planning is enhanced.

The total number of EIS and related documents reviewed and comments prepared since FY 1974 are shown in the following table:

FY 74	FY 75	FY 76	est. FY 77	est. FY 78
2,071	2,146	2,231	2,250	2,250

This program helps assure that all elements of the environment are considered before a major decision is made or action is taken by the Federal Government.

The major benefit of the reviews of actions affecting the National Park System is the protection and enhancement of the Nation's natural and cultural resources.

D. Alaska Native Claims Settlement Act

Fiscal year 1977, $1,325,000; Fiscal year 1978, $2,517,000; increase of $1,192,000.

Major Program Changes

(1)	Increase planning and cooperation efforts under the Alaska Native Claims Settlement Act.	+$1,192,000;	total $2,517,000 Total 13 positions

Proposal. This proposal would increase the planning and cooperative efforts mandated by the Alaska Native Claims Settlement Act of 1971 (ANCSA). Resource based studies of the lands tentatively designated for inclusion in the National Park System will be expanded. More mineral property interests will be surveyed. Before lands are conveyed to Alaskan Native Corporations, the Service must identify and study prehistoric and historic resources in cooperation with the Bureau of Indian Affairs and these studies will be accelerated.

Justification. Thirty-two million acres in eleven areas have been designated for potential inclusion in the National Park System. Resource-based studies in these eleven areas include biological, geological, archeological, historical and socio-economic information. Resource management plans must be prepared for all eleven areas. Hundreds of mineral claims necessitate mineral surveys to estimate the cost of all mineral property interests should the Service need to acquire particular claims.

Historic and prehistoric resources must be identified and studied further to achieve a better understanding of their significance and the type of protection that will be required. Section 14(h) of ANCSA provides for the conveyance of properties to native corporations for historic sites and cemeteries. The Department of the Interior requires the Bureau of Indian Affairs to validate these conveyances with the consultation of the National Park Service. As many as 6 to 8 thousand applications from 12 Alaska Native Corporations and 200 villages are expected for Service review.

Cost Factors. Because of the variety and uniqueness of physiographic types, cultural evidences and biotic communities represented in Alaska special expertise is needed for studies. In addition, the severe climatic conditions and shortness of work season raise costs. Includes $17,000 for annualization of classified pay increase.

Program Description. Under ANCSA the Service is responsible for studies, legislative support data, planning and support activities related to the withdrawal of lands in Alaska for potential inclusion in the National Park System. In addition, the Service must consult with the Bureau of Indian Affairs as they validate conveyance of historic sites and cemeteries to Alaska Native Corporations. This requires the identification and study of historic and prehistoric resources throughout the State.

One of the important studies being made under this program concerns the migration of early man into the Western Hemisphere via the Bering Land Bridge. This study is being jointly conducted with the National Geographic Society.

6. Statutory or Contractual Aid for Other Activities:
Fiscal year 1977, $1,954,000; Fiscal year 1978, $1,988,000 increase of $34,000.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$ 26,000	--	$ 283,000	--	Roosevelt Campobello International Park Commission - to meet matching funds.
(B) 56,000	--	100,000	--	Hampton National Historic Site - meet increase in operating costs.
(C) 275,000	--	--	--	Fort Scott Historic Area - no development scheduled for FY 1978.
(D)+ 27,000	--	405,000	--	Ice Age National Scientific Reserve - to meet matching funds.
(E)- 1,000,000	--	--	--	Father Marquette National Memorial - limitation amount of $1,000,000 has been reached.
(F)+ 1,200,000	--	1,200,000	--	International Peace Gardens - to meet matching funds.
+ 34,000	--	1,988,000	--	

Program Synopsis

This program provides financial or other assistance in the planning, development, or operation of natural, historical, or recreational areas not operated by the National Park Service. The Service must provide this assistance as authorized by law or pursuant to agreements between the Service and other Federal agencies, States, or private institutions.

A. Roosevelt Campobello International Park Commission

Fiscal year 1977, $257,000; fiscal year 1978, $283,000; increase of $26,000.

Major Program Changes
(1) Meet matching funds +$26,000; total $283,000
No positions.

Proposal. This increase will meet the Service's 50 percent share of the cost of operations and development at the area.

Justification. The Service is legally obligated to match an equal amount of funds with Canada to operate and develop this international park.

Cost Factors. Legislative and contractual agreements.

Program Description. In 1964, Public Law 88-363 authorized the Roosevelt Campobello International Park to commemorate Franklin D. Roosevelt's childhood home on Campobello Island, New Brunswick, Canada. This international park is administered by a joint United States - Canadian Commission. The United States, through the National Park Service, pays 50 percent of the cost of operation and development of the park.

B. Hampton National Historic Site

Fiscal year 1977, $44,000; Fiscal year 1978, $100,000; increase of $56,000.

Major Program Changes

(1) Meet increased operating costs.	+$56,000; total $100,000 No positions

Proposal. This increase will provide necessary funding to Hampton NHS for preservation, operation, and maintenance.

Justification. The National Park Service is obligated by agreement with the Society for the Preservation of Maryland Antiquities to provide financial assistance for the preservation, operation and protection of Hampton NHS. Current funding does not meet minimum costs. All of the buildings need extensive maintenance, repair, painting and other work. The grounds, trees and shrubs are in poor condition. Contracted services, labor, supplies, and utilities have increased about 20 percent. Continued insufficient funding will further accelerate the deterioration of the site until it becomes unsafe for the visiting public.

Cost Factors.

Maintenancemen (2)	$ 27,040	
Laborers (3)	26,520	
Support Costs	10,000	
		$ 63,560
Equipment: New tractor and gang mower	8,000	
Utilities, Supplies and Materials	13,600	
		21,600
Curator (1)	12,840	
Curator Assistant (1)	8,500	
Clerk Typist	8,500	
Support Costs	5,000	
		34,840
		120,000
Less Estimated Receipts from Hampton Operations	-20,000	
Total	$100,000	

Program Description. This program provides financial assistance to the Society for the Preservation of Maryland Antiquities for preserving, protecting and maintaining Hampton National Historic Site near Baltimore, Maryland. Hampton NHS is one of the great post-revolution mansions of America, exhibiting the late Georgian style of architecture.

C. Fort Scott Historic Area

Fiscal year 1977, $275,000; Fiscal year 1978, $-0-; decrease of $275,000.

Proposal. No increase in program.

Justification. No increase in program.

Cost Factors. Technical and financial assistance to the City of Fort Scott is provided as specific projects are scheduled. Thus funding needs are intermittent.

Program Description. The National Park Service provides technical and financial assistance for the preservation of Fort Scott as a national historic area as authorized by P.L. 89-155. By cooperative agreement with the City of Fort Scott, the Service also provides historical research and planning. The City of Fort Scott operates and maintains the area.

D. Ice Age National Scientific Reserve

Fiscal year 1977, $378,000; Fiscal year 1978, $405,000; increase of $27,000.

Major Program Changes	
(1) Increase to meet matching funds	+$27,000; total $405,000 No positions.

Proposal. This increase will provide for 50 percent share of operations and maintenance costs for the Ice Age National Scientific Reserve.

Justification. Public Laws 88-655 and 91-483 authorize the Service to cooperate with the State of Wisconsin in the administration of the reserve. Under a cooperative agreement, the Service must pay 50 percent of the costs of acquisition, development, operations, and financing of the reserve. The State has submitted to the Service its request for operations and maintenance funding assistance as shown in the cost factors section following.

Cost Factors. Requirements for the National Park Service share of funding for 1978 are as follows:

Management and Protection	
Personal Services	$259,800
Support Costs	65,800
Buildings and Utilities Maintenance	
Personal Services	51,000
Support Costs	12,900
Roads and Trails Maintenance	
Personal Services	12,300
Support Costs	3,200
Total	$405,000

Program Description. Under cooperative agreement between the Service and the Wisconsin Department of Natural Resources, the Service participates in acquisition, development, operations and financing of the Ice Age National Scientific Reserve. According to this agreement, the Service must pay an equal amount of the costs for operations and maintenance of the Reserve.

E. Father Marquette National Memorial

Fiscal year 1977, $1,000,000; Fiscal year 1978, $-0-; decrease of $1,000,000.

Major Program Change	
(1) No additional funding required for the Memorial.	-$1,000,000; Total $-0- No positions.

Proposal. None

Justification. None

Cost Factors. A limitation of $1,000,000 for land acquisition and development was set by law.

Program Description. Father Marquette National Memorial was authorized in December 1975. The Service was limited to the provision of $1,000,000 to the State of Michigan for land acquisition and development for the Memorial. Following an agreement with the Governor of Michigan the $1,000,000 will be provided during FY 1977.

F. International Peace Garden

Fiscal year 1977, $-0-; Fiscal year 1978, $1,200,000; increase of $1,200,000.

Major Program Change	
(1) Matching funds for International Peace Garden	+$1,200,000, Total $1,200,000 No positions.

Proposal. The amount of $1,200,000 will match funds from Canada for the completion of the formal garden, peace tower and other work.

Justification. This amount will meet an equal amount from the Government of Canada for the development of the formal gardens and peace tower at the International Peace Garden. This funding will fulfill the U.S. Government's responsibility with respect to the cost of completion of the garden.

Cost Factors. Legislative and contractual agreements.

Program Description. The International Peace Garden is located on the international boundary between the United States and Canada. The U.S. Government through the National Park Service must meet an equal share from the Government of Canada for development of the International Peace Garden.

This listing shows the allocations by park areas, other organizational entities, and program items of the amount available in Fiscal 1977, the proposed increases and total amount requested in Fiscal 1978 for the Operation of the National Park System appropriation.

Additionally, the listing shows the visitor use to each park and the acreage in Federal ownership at each park.

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Park Management					
Abraham Lincoln Birthplace NHS, KY	210,900	--	210,900	368	117
Acadia National Park, ME	855,700	--	855,700	2,858	37,195
Adams NHS, MA	172,400	9,500	181,900	37	8
Agate Fossil Beds NM, NE	59,700	--	59,700	11	2,737
Alaska Group Headquarters Office, AK	980,600	--	980,600	--	--
Alibates Flint Quarries, TX	25,600	--	25,600	3	93
Allegheny Portage Railroad NHS, PA	210,100	--	210,100	55	650
Amistad NRA, TX	724,300	--	724,300	1,124	57,292
Andersonville NHS, GA	287,000	--	287,000	120	455
Andrew Johnson NHS, TN	161,400	--	161,400	50	17
Apostle Islands NL, WI	453,200	95,500	548,700	20	27,052
Appalachian Scenic Trail, PA-MD-VA	32,800	--	32,800	--	--

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Appomattox Court House NHP, VA	248,300	--	248,300	271	995
Arches NP, UT	161,100	--	161,100	275	65,098
Arkansas Post NMemP, AK	105,800	--	105,800	60	385
Assateague Island NS, MD-VA	768,800	--	768,800	1,847	16,096
Aztec Ruins NM, NM	97,700	--	97,700	68	27
Badlands NM, SD	591,800	2,100	593,900	1,206	152,290
Bandelier NM, NM	435,800	--	435,800	296	29,661
Bay Area Parks, CA	188,900	--	188,900	--	--
Bent's Old Fort NHS, CO	212,100	17,600	229,700	122	178
Big Bend NP, TX	1,234,800	--	1,234,800	429	708,118
Big Cypress NPres, FL	86,300	173,600	259,900	--	14,462
Big Hole NBS, MO	95,700	--	95,700	44	656
Big Thicket NPres, TX	236,300	282,500	518,800	--	550
Bighorn Canyon NRA, MO-WY	858,600	--	858,600	372	65,267
Biscayne NM, FL	470,900	--	470,900	332	94,974
Black Canyon of the Gunnison, CO	183,300	--	183,300	373	13,323
Blue Ridge Parkway, NC-VA-GA	4,499,100	--	4,499,100	15,605	74,542
Booker T. Washington NM, VA	160,000	--	160,000	34	224

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Boston NHP, MA	1,803,200	197,300	2,000,500	2,151	28
Bryce Canyon NP, UT	578,900	--	578,900	598	37,099
Buck Island Reef NM, VI	55,600	--	55,600	43	880
Buffalo National River, AK	787,100	--	787,100	250	53,706
Cabrillo NM, CA	353,400	--	353,400	1,503	144
Canaveral NS, FL	307,400	109,700	417,100	374	41,009
Canyon De Chelly NM, AZ	292,800	--	292,800	670	--
Canyonlands NP, UT	1,053,000	--	1,053,000	80	337,490
Cape Cod NS, MA	1,213,900	--	1,213,900	5,167	25,910
Cape Hatteras NS, NC	2,026,300	--	2,026,300	1,853	30,326
Cape Lookout NS, NC	429,300	83,500	512,800	--	23,371
Capitol Reef NP, UT	512,400	--	512,400	403	221,897
Capulin Mountain NM, NM	138,200	--	138,200	51	775
Carl Sandburg Home NHS, NC	237,100	--	237,100	35	247
Carlsbad Caverns NP, NM	1,181,800	--	1,181,800	841	46,435
Casa Grande NM, AZ	142,700	2,200	144,900	149	473
Castillo De San Marcos NM, FL	361,300	--	361,300	771	20
Castle Clinton NM, NY	89,200	--	89,200	204	1

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Cedar Breaks NM, UT	106,100	--	106,100	421	6,155
Chaco Canyon NM, NM	296,200	--	296,200	49	20,990
Chaco Archeological Center, NM	382,100	--	382,100	--	--
Chalmette NHP, LA	205,600	--	205,600	280	142
Chamizal NM, TX	648,200	--	648,200	113	55
Channel Islands NM, CA	299,900	16,100	316,000	107	18,305
Chickamauga & Chattanoga NMP, GA-TN	706,700	--	706,700	12,634	8,076
Chickasaw NRA, OK	844,000	--	844,000	4,316	8,137
Chiricahua NM, AZ	226,600	--	226,600	59	10,646
Christiansted NHS, VI	167,700	--	167,700	60	27
City of Refuge NHP, HI	312,200	--	312,200	370	102
Colonial NHP, VA	2,109,100	--	2,109,100	10,731	8,712
Colorado NM, CO	358,400	--	358,400	599	17,655
Congaree Swamp NM, SC	--	143,800	143,800	--	--
Coronado NMem, AZ	117,700	2,100	119,800	80	2,834
Coulee Dam NRA, WA	985,200	--	985,200	562	100,059
Cowpens NBS, SC	18,100	18,900	37,000	56	601
Craters of the Moon NM, ID ...	240,300	--	240,300	220	53,545

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Crater Lake NP, OR	945,800	--	945,800	426	160,290
Cumberland Gap NHP, KY-VA-TN	688,700	--	688,700	437	20,265
Cumberland Island NS, GA	561,800	40,800	602,600	9	15,556
Curecanti NRA, CO	461,400	--	461,400	813	41,572
Custer Battlefield, MT.....	218,100	--	218,100	266	765
Cuyahoga Valley NRA, OH	296,900	224,300	521,200	--	246
De Soto NMem, FL	133,700	--	133,700	164	25
Death Valley NM, CA-NV	2,009,900	--	2,009,900	639	2,048,943
Delaware Water Gap NRA, NJ-PA	1,129,700	--	1,129,700	938	31,421
Denver Service Center					
Historical & Archeological Studies	340,000	--	340,000		
Maintenance Assistance Program.....	100,000	--	100,000		
Statistical Unit	110,800	--	110,800		
Natural Science	196,700	--	196,700		
Devils Tower NM, WY	201,800	--	201,800	162	1,347
Devils Postpile NM, CA	43,400	--	43,400	99	298
Dinosaur NM, CO-UT	740,900	--	740,900	412	203,787
Edison NHS, NJ	551,700	--	551,700	53	20
Effigy Mounds NM, IA	148,300	--	148,300	72	1,475

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976	Acreage
Eisenhower NHS, PA	180,100	--	180,100	--	493
El Morro NM, NM	111,000	--	111,000	33	1,040
Everglades NP, FL	3,475,900	1,929,000	5,404,900	975	1,397,063
Federal Hall NMem, NY	232,200	--	232,200	160	1
Fire Island NS, NY	1,161,600	--	1,161,600	754	5,954
Florissant Fossil Beds NM, CO	121,900	--	121,900	43	5,992
Fort Bowie NHS, AZ	59,700	--	59,700	6	990
Fort Caroline NMem, FL	156,000	--	156,000	78	128
Fort Clatsop NMem, OR	165,600	--	165,600	115	125
Fort Davis NHS, TX	247,800	--	247,800	66	460
Fort Donelson NMP, TN	296,100	--	296,100	1,444	546
Fort Frederica NM, GA	212,700	--	212,700	265	211
Fort Jefferson NM, FL	138,200	--	138,200	20	47,125
Fort Laramie NHS, WY	330,300	--	330,300	110	563
Fort Larned NHS, KS	159,600	3,300	162,900	21	672
Fort Matanzas NM, FL	82,000	--	82,000	284	299
Fort McHenry NM-HS, MD	407,000	--	407,000	657	43
Fort Necessity NBS, PA	277,300	--	277,300	227	472
Fort Point NHS, CA	243,100	--	243,100	692	29

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Fort Pulaski NM, GA	317,100	--	317,100	314	5,365
Fort Raleigh NHS, NC	207,600	--	207,600	352	140
Fort Smith NHS, AR	158,600	--	158,600	97	13
Fort Stanwix NM, NY	216,800	--	216,800	90	16
Fort Sumter NM, SC	480,600	--	480,600	189	64
Fort Union NM, NM	164,200	--	164,200	7	721
Fort Union Trading Post NHS, ND-MT	39,100	--	39,100	17	392
Fort Vancouver NHS, WA	263,100	--	263,100	293	202
Fossil Butte NM, WY	64,700	--	64,700	9	7,418
Fredericksburg & Spotsylvania NMP, VA	702,100	--	702,100	1,360	4,924
Gateway NRA, NY-NJ	6,571,200	125,500	6,696,700	8,999	20,391
General Grant NMem, NY	85,100	--	85,100	67	1
George Rogers Clark NHP, IN ..	224,200	--	224,200	109	24
George Washington Birthplace NM, VA	498,900	--	498,900	225	456
George Washington Carver NM, MO	122,200	--	122,200	43	210
Gettysburg NMP, PA	1,158,700	--	1,158,700	2,830	3,476
Gila Cliff Dwellings NM, NM ..	77,000	--	77,000	45	533

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Glacier Bay NM, AK	548,600	--	548,600	71	2,805,072
Glacier NP, MT	3,328,200	--	3,328,200	1,616	1,012,598
Glen Canyon NRA, UT	1,906,000	--	1,906,000	1,130	1,157,463
Gloria Dei Church NHS, PA	31,200	--	31,200	180	848
Golden Spike NHS, UT	242,000	--	242,000	76	2,203
Golden Gate NRA, CA	2,469,900	--	2,469,900	1,469	19,991
Gran Quivira NM, NM	147,700	5,300	153,000	42	611
Grand Teton NP, WY	2,554,600	--	2,554,600	3,135	305,301
Grand Portage NM, MN	255,700	--	255,700	38	710
Grand Canyon NP, AZ	3,896,000	--	3,896,000	3,072	1,200,577
Grant-Kohrs Ranch NHS, MT	248,200	--	248,200	--	1,322
Great Sand Dunes NM, CO	244,600	--	244,600	273	36,426
Great Smoky Mountains NP, NC-TN	4,218,100	--	4,218,100	10,913	514,758
Guadalupe Mountains NP, TX ...	336,800	--	336,800	60	76,292
Guilford Courthouse NMP, NC ..	226,400	--	226,400	534	220
Gulf Islands NS, FL-MS	1,409,800	--	1,409,800	2,180	97,975
Gunboat Cairo NMP, MS	22,200	--	22,200	--	--
Haleakala NP, HI	514,100	--	514,100	600	27,208

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Hamilton Grange NMem, NY	63,600	--	63,600	10	--
Harpers Ferry Center					
Audiovisual Arts	1,208,700	--	1,208,700		
Informational Publications	1,617,700	--	1,617,700		
Museum Exhibit Maintenance	2,197,300	--	2,197,300		
Health Unit	22,200	--	22,200		
Interpretation Division	62,300	--	62,300		
Hawaii Volcanoes NP, HI	1,130,900	--	1,130,900	1,827	217,030
Hawaii State Director, HI	257,600	--	257,600	--	--
Herbert Hoover NHS, IA	329,200	--	329,200	371	181
Hohokam Pima NM, AZ	39,900	--	39,900	--	--
Home of Franklin Delano Roosevelt NHS, NY	495,600	--	495,600	306	188
Homestead NM of America, NE	138,200	--	138,200	18	182
Hopewell Village NHS, PA	298,300	--	298,300	180	848
Horseshoe Bend NMP, AL	191,900	--	191,900	500	2,040
Hot Springs NP, AR	828,800	--	828,800	4,477	4,408
Hovenweep NM, CO-UT	37,600	--	37,600	17	785
Hubbell Trading Post NHS, AZ	145,400	--	145,400	61	160
Independence NHP, PA	4,674,000	--	4,674,000	4,101	20
Indiana Dunes NL, IN	1,081,700	--	1,081,700	371	4,381

83-561 O - 77 - 35

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Isle Royale NP, MI	1,111,900	--	1,111,900	17	539,280
Jefferson National Expansion Memorial NHS, MO	1,874,100	--	1,874,100	2,546	91
Jewel Cave NM, SD	169,000	--	169,000	77	1,275
John D. Rockefeller Jr. Mem. Pky., WY	133,400	--	133,400	1,535	23,777
John Day Fossil Beds NM, OR ..	262,100	--	262,100	22	2,035
John Muir NHS, CA	158,600	3,900	162,500	28	9
John Fitzgerald Kennedy NHS, MA	82,600	--	82,600	23	1
Johnstown Flood NMem, PA	41,300	--	41,300	63	67
Joshua Tree NM, CA	959,400	176,000	1,135,400	644	547,531
Katmai NM, AK	276,300	--	276,300	11	2,792,132
Kennesaw Mountain NBP, GA	370,200	--	370,200	6,406	2,882
Klamath Falls Group, OR	282,700			--	--
Kings Mountain NMP, SC	288,000	--	288,000	503	3,945
Klondike Gold Rush NHP, AK-WA	--	406,000	406,000	--	--
Knife River Indian Village NHS, ND	88,600	11,000	99,600	--	156
Lake Mead NRA, AZ-NV	3,595,600	--	3,595,600	6,936	1,481,295

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Lake Meredith NRA, TX	661,700	--	661,700	1,673	45,964
Lassen Volcanic NP, CA	1,258,800	16,600	1,275,400	505	105,800
Lava Beds NM, CA	371,400	--	371,400	153	46,821
Lehman Caves NM, NV	177,000	--	177,000	41	640
Lincoln Boyhood NMem, IN	233,400	--	233,400	172	164
Lincoln Home NHS, IL	436,700	--	436,700	519	4
Longfellow NHS, MA	180,200	--	180,200	--	--
Los Angeles Field Office, CA	48,400	--	48,400	--	--
Lyndon B. Johnson NHS, TX	814,100	--	814,100	405	241
Mammoth Cave NP, KY	1,591,300	--	1,591,300	1,839	51,304
Manhattan Sites, NY	308,600	--	308,600	--	--
Mar-A-Lago NHS, FL	48,300	--	48,300	--	17
Martin Van Buren NHS, NY	269,000	--	269,000	--	--
Mesa Verde NP, CO	1,294,300	--	1,294,300	646	51,489
Midwest Archeological Center, NE	138,900	--	138,900	--	--
Minute Man NHP, MA	581,900	25,700	607,600	1,232	681
Montezuma Castle NM, AZ	176,300	--	176,300	490	825
Moores Creek NMP, NC	157,800	--	157,800	64	42

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Morristown NHP, NJ	663,400	--	633,400	860	1,530
Mound City Group NM, OH	144,100	--	144,100	91	68
Mount McKinley NP, AK	1,412,300	--	1,412,300	432	1,939,493
Mount Rainier NP, WA	2,838,800	--	2,838,800	1,597	235,239
Mount Rushmore NMem, SD	628,800	--	628,800	2,078	1,246
Muir Woods NM, CA	152,200	--	152,200	995	513
Natchez Trace Parkway, MS-TN-AL	3,224,900	--	3,224,900	12,981	46,102
National Capital Region, DC-MD-VA					
Antietam	321,800	--	321,800	569	1,298
Catoctin & BW Group				550	5,769
Catoctin Mountain	602,500	+8,000	610,500		
BW Parkway	242,300	--	242,300		
Greenbelt	274,100	--	274,100	3,212	11,758
C&O Canal	1,822,700	--	1,822,700	7,304	7,034
George Washington Parkway ..	3,517,400	--	3,517,400	1,124	1,359
Harpers Ferry	846,800	--	846,800	12,526	2,462
Mall and Monuments					
Central Maintenance	6,109,800	--	6,109,800		
Central Visitor Services	972,700	--	972,700	715	1
Ford and Sylvan Theatres	638,800	--	638,800	638	1,754
Rock Creek Park	1,382,200	--	1,382,200	866	3,003
Manassas	341,100	--	341,100	3,737	6,246
National Capital Region-East	3,765,600	--	3,765,600		
National Visitor Center					
Operation	2,999,900	--	2,999,900		
Rental	3,500,000	--	3,500,000		

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Presidents' Park	776,200	--	776,200		
Prince William Forest	837,200	--	837,200	540	17,410
White House Grounds	739,300	--	739,300		
White House-Historical Furniture	268,300	--	268,300		
Wolf Trap Farm	1,497,200	--	1,497,200	537	130
National Capital Region-Central					
Branch of Transportation	1,193,800	--	1,193,800		
Branch of Building Maintenance	259,700	--	259,700		
Branch of Community Program	1,258,400.	--	1,258,400		
U.S. Park Police	14,129,000	+903,300	15,032,300		
Natural Bridges NM, UT	87,800	--	87,800	53	7,779
Navajo NM, AZ	180,000	--	180,000	77	360
Navajo Lands Group, NM	281,300	--	281,300	--	--
[illegible] Peirce NHP, ID	225,000	--	225,000	174	1,838
Ninety Six NHS, SC	--	100,000	100,000	--	--
North Cascades NP, Lake Chelan NRA, Ross Lake NRA, WA	1,360,100	--	1,360,100	800	669,896
Ocmulgee NM, GA	253,200	--	253,200	134	683
Olympic NP, WA	2,689,800	--	2,689,800	2,633	893,945
Oregon Caves NM, OR	121,800	--	121,800	162	466
Organ Pipe Cactus NM, AZ	323,600	5,000	328,600	137	329,197
Ozark NSR, MO	1,683,600	--	1,683,600	1,588	58,663

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Padre Island NS, TX	709,900	--	709,900	942	132,203
Pea Ridge NMP, AK	204,400	--	204,400	96	4,279
Pecos NM, NM	174,400	--	174,400	71	341
Perry's Victory & International Memorial, OH	159,100	6,600	165,700	102	25
Petersburg NB, VA	351,900	--	351,900	456	1,489
Petrified Forest NP, AZ	715,700	--	715,700	1,038	93,493
Pictured Rocks NL, MI	297,100	--	297,100	282	29,379
Pinnacles NM, CA	376,400	15,200	391,600	157	14,178
Pipe Spring NM, AZ	105,900	--	105,900	26	40
Pipestone NM, MN	204,200	--	204,200	169	282
Point Reyes NS, CA	1,355,100	--	1,355,100	1,616	60,758
Puukohola Heiau NHS, HI	117,000	--	117,000	18	46
Rainbow Bridge NM, UT	161,100	--	161,100	26	40
Redwood NP, CA	1,173,600	63,800	1,237,400	400	27,793
Richmond NBP, VA	408,800	--	408,800	404	769
Rocky Mountain NP, CO	2,157,600	--	2,157,600	2,989	262,977
Roger Williams NMem, RI	74,100	11,100	85,200	--	5
Russell Cave NM, AL	110,300	--	110,300	28	310

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Sagamore Hill NHS, NY	295,400	--	295,400	333	85
Saguaro NM, AZ	440,200	5,100	445,300	393	78,163
Saint-Gaudens NHS, NH	123,700	--	123,700	15	86
Saint Croix Island NM, ME ...	26,400	--	26,400	200	22
Saint Croix NSR, WI-MN	450,000	--	450,000	200	16,197
Salem Maritime NHS, MA	173,200	--	173,200	377	9
San Juan Island NHP, WA	136,200	--	136,200	66	1,725
San Juan NHS, PR	645,800	--	645,900	1,041	53
Saratoga NHP, NY	417,600	--	417,600	328	2,432
Saugus Iron Works NHS, MA ...	221,700	--	221,700	46	9
Scotts Bluff NM, NE	128,700	--	128,700	192	2,709
Sequoia NP and Kings Canyon NP, CA	3,690,400	--	3,690,400	2,194	846,517
Shadow Mountain NRA, CO	590,200	--	590,200	197	16,304
Shenandoah NP, VA	2,671,800	--	2,671,800	2,769	190,535
Shiloh NMP, TN	381,000	--	381,000	670	3,717
Sitka NHP, AK	303,300	--	303,300	81	107
Sleeping Bear Dunes NL, MI ..	583,000	--	583,000	128	21,875
Southeast Archeological Ctr, FL	227,800	--	227,800	--	--

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Southern Arizona Group, AZ ...	613,400	--	613,400	--	--
Springfield Armory NHS, MA ...	204,600	--	204,600	--	--
Statue of Liberty NM, NY-NJ ..	1,424,900	--	1,424,900	1,279	58
Stones River NB, TN	186,600	--	186,600	123	351
Sunset Crater NM, AZ	77,400	--	77,400	281	3,040
Theodore Roosevelt NMemP, AZ	624,200	--	624,200	898	69,676
Theodore Roosevelt Birthplace NHS, NY	71,700	--	71,700	12	1
Thaddeus Kosciuszko NMem, PA	80,600	--	80,600	--	1
Timpanogos Cave NM, UT	201,200	--	201,200	169	250
Tonto NM, AZ	90,800	2,500	93,300	63	1,120
Tumacacori NM, AZ	122,100	--	122,100	80	10
Tuskegee Institute NHS, AL ...	163,600	--	163,600	--	16
Tuzigoot NM, AZ	115,300	--	115,300	97	58
Valley Forge NHP, PA	--	1,956,400	1,956,400	--	--
Vanderbilt Mansion NHS, NY ...	495,500	--	495,500	274	12
Vicksburg NMP, MS	621,400	--	621,400	844	1,715
Virgin Islands NP, VI	926,800	--	926,800	308	12,293
Voyageurs NP, MN	500,300	--	500,300	51	85,878

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978	Visitor Use Fiscal 1976 (in thousands)	Acreage
Walnut Canyon NM, AZ	144,600	--	144,600	73	2,012
Western Archeological Center, AZ	805,000	26,000	831,000	--	--
Western Pennsylvania Group, PA	65,600	--	65,600	--	--
Whiskeytown-Shasta-Trinity NRA, CA	994,600	--	994,600	1,432	42,430
White Sands NM, NM	331,700	--	331,700	561	144,752
Whitman Mission NHS, WA	153,700	--	153,700	127	98
William Howard Taft NHS, OH	102,300	--	102,300	3	1
Wilson's Creek NB, MO	89,700	--	89,700	46	1,748
Wind Cave NP, SD	631,300	--	631,300	710	28,060
Wright Brothers NMem, NC	291,700	--	291,700	495	431
Wupatki NM, AZ	200,100	--	200,100	172	35,253
Yellowstone NP, WY-MI-ID	7,603,700	--	7,603,700	2,319	2,219,737
Yosemite NP, CA	5,444,900	--	5,444,900	2,849	759,168
Yucca House NM, CO	1,100	--	1,100	--	10
Zion NP, UT	932,800	--	932,800	1,256	142,443

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978
Regionwide Natural Science Programs:			
Rocky Mountain	738,400	194,400	932,800
North Atlantic	303,300	--	303,300
National Capital	361,000	--	361,000
Mid-Atlantic	42,200	--	42,200
Southeast	714,300	--	714,300
Midwest	266,400	--	266,400
Southwest	297,200	8,900	306,100
Western	633,600	--	633,600
Pacific Northwest	495,800	--	495,800
Regionwide Park Professional Services:			
Rocky Mountain	629,400	108,700	738,100
North Atlantic	910,200	--	910,200
National Capital	570,600	--	570,600
Mid-Atlantic	731,100	--	731,100
Southeast	891,200	--	891,200
Midwest	612,300	--	612,300
Southwest	631,000	--	631,000
Western	600,000	--	600,000
Pacific Northwest	273,400	--	273,400
Regionwide Park Support Operations:			
Rocky Mountain	321,600	--	321,600
North Atlantic	127,000	--	127,000
National Capital	1,808,200	--	1,808,200
Mid-Atlantic	364,300	--	364,300
Southeast	336,600	--	336,600
Midwest	572,500	--	572,500
Southwest	1,050,100	--	1,050,100
Western	640,500	--	640,500
Pacific Northwest	822,000	--	822,000

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978
Regionwide Cyclic Maintenance of Facilities:			
Rocky Mountain	730,700	888,900	1,619,600
North Atlantic	862,000	--	862,000
National Capital	1,886,500	--	1,886,500
Mid-Atlantic	408,600	--	408,600
Southeast	1,853,400	1,226,600	3,080,000
Midwest	676,800	201,100	877,900
Southwest	797,700	280,000	1,077,700
Western	849,700	--	849,700
Pacific Northwest	828,100	777,800	1,605,900
Regionwide Cyclic Maintenance of Historic Resources:			
Mid-Atlantic	--	500,000	500,000
Southeast	--	202,900	202,900
Southwest	--	55,600	55,600
Regionwide Historic Resources Preservation:			
Rocky Mountain	--	162,000	162,000
North Atlantic	--	210,000	210,000
National Capital	--	146,000	146,000
Mid-Atlantic	--	164,200	164,200
Southeast	531,800	155,000	686,800
Midwest	--	222,000	222,000
Southwest	--	153,000	153,000
Western	--	111,000	111,000
Pacific Northwest	--	189,000	189,000
Servicewide Programs:			
Concessions Management	953,500	--	953,500
Employees' Compensation Fund Payment	974,300	560,000	1,534,300

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978
General Services Administration Space Reimbursement	4,914,000	283,000	5,197,000
Public Information Program	858,300	66,700	925,000
Ruins Stabilization Program	737,100	--	737,100
NPS Road and Bridge Inspection Program	310,000	--	310,000
Servicewide Park Support Operations	2,605,600	54,400	2,660,000
Servicewide Science Program	663,200		663,200
Servicewide Training Program	2,977,600	--	2,977,600
Student Conservation Program	106,700	205,000	311,700
Servicewide Maintenance	1,500,000		1,500,000
Classified Pay Increase	4,816,000	409,000	5,225,000
Wageboard Pay Increase	4,228,000	--	4,228,000
Volunteers-in-Parks Program	250,000	--	250,000
Bicentennial Land Heritage		13,000,000	13,000,000
Total Park Management ...	278,856,000	27,760,000	306,616,000
Forest Fire Suppression and Rehabilitation of Burned Areas	700,000	--	700,000
Executive Direction:			
Rocky Mountain Region	320,300	--	320,300
North Atlantic Region	290,200	--	290,200
National Capital Region	523,500	--	523,500
Mid-Atlantic Region	316,700	--	316,700
Southeast Region	326,800	--	326,800
Midwest Region	319,200	--	319,200
Southwest Region	236,800	--	236,800
Western Region	328,300	--	328,300
Pacific Northwest	315,200	--	315,200

Park Areas by Region and Other Entities, Program Items, Etc.	Estimated Available 1977	Increase	Budget Estimate 1978
WASO and Undistributed	2,856,000	--	2,856,000
Classified Pay Increase	104,000	2,000	106,000
Total Executive Direction	5,937,000	2,000	5,939,000
Park Recreation and Wilderness Planning	--	3,726,000	3,726,000
Cooperative Programs	--	4,178,000	4,178,000
Statutory or Contractual Aid for Other Activities	--	1,988,000	1,988,000
Total Operation of the National Park System ..	285,493,000	37,654,000	323,147,000

Common Program Services (Non-add): Fiscal year 1977, $21,150,000; Fiscal year 1978, $22,185,000; increase of $1,035,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$923,000	--	$19,291,000	589	Administrative Services
(B)+$112,000	--	2,894,000	48	ADP Services
+$1,035,000	--	$22,185,000	637	

Program Synopsis

This program is a non-add item for which funds are added to the appropriations requested for other operating programs of the National Park Service. Costs charged are for common administrative and ADP services which are not readily identifiable when services are rendered and costs are applied. Examples of common services include personnel administration, budget, accounting and finance, contracting, postage, ADP services and other similar services which cannot practically be direct costed to identifiable benefitting appropriations. Common service costs are distributed to operating program appropriations on the basis of direct program workload impact on common services program needs.

A. Administrative Services

Fiscal year 1977, $18,368,000; Fiscal year 1978, $19,291,000; increase of $923,000.

Major Program Changes

(1) Central Office Administration +$411,000; total $8,598,000
Total 146 positions

Proposal. The headquarters office provides overall planning, direction, coordination, interagency and public liaison, administrative direction and support for direct program operations of the National Park Service. Additional funding is required in fiscal 1978 to fund increased cost of administrative services.

Justification. Administrative support (e.g., personnel, contracting, office services, communications, mail and financial control and reporting) is required to effectively administer and control direct program operations. To provide effective administrative support for direct operating programs in fiscal 1978, an increase of $411,000 is needed to fund the increased cost of central office administrative services. Increases are required as described below:

Cost Factors.

Salary and related costs	$252,000
Travel and transportation	12,500
Rent, communications and utilities	48,600
Printing and reproduction	9,800
Contractual services	40,500
Supplies and materials	34,700
Equipment	12,900
Total	$411,000

(2) Regional Office Administration +$512,000; total $10,693,000
Total 443 positions

Proposal. Nine regional offices provide consolidated administrative services for park areas thereby reducing the need for such services at the park level. This promotes more effective use of administrative resources and promotes more cost effective operations. Additional funding is required in fiscal 1978 to continue the effective administrative support of the parks.

Justification. Consolidated regional administrative support of park areas is the most cost effective means for providing such services as personnel, communications, office services, contracting, financial control and reporting for park areas and other field operations. To provide effective support, an increase of $512,000 is required in fiscal 1978. Increases are required as described below:

Cost Factors.

Salary and related costs	$314,000
Travel and transportation	15,500
Rent, communications and utilities	60,400
Printing and reproduction	12,200
Contractual services	50,500
Supplies and materials	43,300
Equipment	16,100
Total	$512,000

Program Description. The administrative services program element is made up of central and regional office functions and activities which provide common support services needed to perform the direct mission programs of the National Park Service. Costs of this program element cannot be directly charged to benefitting programs because of the nature of services rendered. Services rendered include administration, personnel management, contracting and procurement, supply, property control, budget, accounting and finance, mail and postage and other similar services.

B. ADP Services

Fiscal year 1977, $2,782,000; Fiscal year 1978, $2,894,000; increase of $112,000.

Major Program Changes
(1) ADP Services +$112,000; total $2,894,000
Total 48 positions

Proposal. Complete, current and reliable information is required at all levels of operation to obtain effective management and control of National Park Service operations and resources. To do this, effective information systems must be developed and maintained. A fiscal 1978 increase of $112,000 is proposed to continue the development and operation of management information systems which will enhance the management and control of National Park Service operations and resources.

Justification. During the past 7 years, the National Park Service has developed and implemented approximately 100 information processing and reporting application for management and control of operations and resources. There is a backlog of over 40 application awaiting development which require fiscal, manpower or computer resources. In addition to the backlog of applications awaiting development and implementation, there are other problems which need to be solved and for which additional funds are required. These problems include:

(1) Applications in use cannot be readily used to provide comprehensive and comparative information for problem-solving and management planning and control purposes.

(2) Current applications are fragmented. Integrated systems must be implemented to maximize the efficient processing and use of information.

(3) Existing incompatible, single user and expensive timesharing facilities must be converted to a more effective centralized installation.

(4) Remote access capability must be extended to parks and other users where this capability would improve operations.

Cost Factors. The following table provides detailed information on the categories of costs involved and indicates fiscal 1977 and fiscal 1978 estimated obligations:

Category of Cost	($000) FY 1977	($000) FY 1978
Personnel Compensation, Benefit and Travel	$950	$998
Equipment Purchases	159	35
Equipment Rental	253	230
Space Modification	10	10
Supplies	105	175
Commercial Services:		
ADPE Time	538	612
Systems Analysis and Programming	175	220
ADPE Maintenance	54	60
ADP Studies, etc.	105	175
Reimbursable Services:		
Interagency Services	1	3
Interagency Services (NET)	418	418
Telecommunications:		
Equipment Leases	4	6
Commercial Services - Other	2	2
Interagency Services	8	12
Total	$2,782	$2,894

Program Description. The ADP services program element includes those central and regional office ADP activities which provide common support services needed to perform the direct mission programs of the National Park Service. Costs of this program element cannot be directly charged to benefitting programs because of the nature of services rendered. Service rendered include equipment rental and service; system design, implementation and operation; telecommunications and other related costs.

Management information collection, processing and reporting capability is provided by ADP service functions for managers and other National Park Service personnel who have need for complete, current and reliable information for effective performance of Service mission. At the present time, approximately 100 separate applications are operational. An additional 40 applications are awaiting development and implementation. Each of the nine regions, plus various offices has remote data input and retrieval capabilities. A mixture of commercial and Government-owned computer installations are being used. Applications in use, or awaiting development, support direct mission operations and related administrative services functions.

Distribution of Costs to Appropriation Accounts

Common program services is developed as a separate operating program of the National Park Service and is justified on the basis of need for supporting services to perform mission programs of the Service. The program includes support function and services needed to carry out the direct programs of the Service, but which cannot be readily charged to benefitting accounts. However, since these support functions and services are essential to effective performance of mission programs, their costs are financed by distributing a portion of the support services costs to direct program benefitted. Direct program justifications, therefore, include direct and support program costs.

The following table summarizes the support program additions by activity for fiscal 1978.

	FY 1977	FY 1978
Operation of the National Park System		
Park Management	$17,274,000	$17,768,000
Park, Recreation and Wilderness Planning	-0- 1/	186,000
Cooperative Programs	-0- 1/	209,000
John F. Kennedy Center for the Performing Arts		
John F. Kennedy Center	155,000	189,000
Planning, Development and Operation of Recreation Facilities		
Recreational Facilities	540,000	630,000
Preservation of Historic Properties		
Historic Preservation and Special Studies	289,000 2/	263,000
Historic Preservation Fund	-0- 4/	263,000
Construction		
Buildings, Utilities and Other Facilities	318,000	307,000
Roads, Trails, and Parkways	-0- 3/	215,000
Park, Recreation and Wilderness Planning	174,000	-0- 5/
Cooperative Programs	146,000	-0- 5/

83-561 O - 77 - 36

	FY 1977	FY 1978
Road Construction (Liquidation of Contract Authority)		
Roads, Trails and Parkways	$ 131,000	$ -0- 6/
Transfer Funds		
Land and Water Conservation Fund (BOR)	2,115,000	2,145,000
Forest Protection and Utilization (Forest Service)	8,000	10,000
Grand Total	$21,150,000	$22,185,000

1/ Funded under "Planning and Construction" appropriation in fiscal 1977.
2/ Included items funded under "Historic Preservation Fund" appropriation in fiscal 1978.
3/ Funded under "Road Construction" appropriation in fiscal 1977.
4/ Funded under "Preservation of Historic Properties" appropriation in fiscal 1977.
5/ Funded under "Operation of the National Park System" appropriation in fiscal 1978.
6/ Funded under "Construction" appropriation in fiscal 1978.

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) [$276,485,000]; *the acquisition of water rights; expenses necessary for investigations and studies to determine suitability of areas to be included in the National Park System, the designation of wilderness areas, and the management of water resources; the preparation of plans for existing and proposed park and recreation areas; provisions of technical assistance to other Federal agencies, and to States and private institutions in the planning, development, and operation of landmarks, parks and recreation areas; and for financial or other assistance in planning, development, or operation of areas as authorized by law or pursuant to agreements with other Federal agencies, States or private institutions, including not to exceed $283,000 for the Roosevelt Campobello International Park Commission, $323,147,000: Provided,* That the [National Park Service shall not lease the facilities located at 900 Ohio Drive in the District of Columbia on any other basis than the fair market rental value generally pertaining for such premises in the area] *unexpended balances of the appropriations to the National Park Service for "Park, recreation and wilderness planning," "Cooperative programs," and "Statutory or contractual aid for other activities" shall be merged with this appropriation. (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. 620g; Act of July 7, 1964 (78 Stat 299); Act of September 3, 1964 (78 Stat 890); Department of the Interior and Related Agencies Appropriation Act, 1977.)*

Appropriation Language Changes

1. Activities Transferred In
   Activity 4 - Park, Recreation and Wilderness Planning
   Activity 5 - Cooperative Programs
   Activity 6 - Statutory or Contractual Aid for Other Activities

Activities listed above were transferred from the "Planning and Construction" appropriation, a no-year appropriation. Fiscal 1978 language provides for merger of related unexpended appropriation balances in the "Planning and Construction" appropriation with fiscal 1978 appropriations made under the "Operation of the National Park System" appropriation. Activities transferred are operational in nature and are not construction oriented.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OPERATION OF THE NATIONAL PARK SYSTEM

A-11-32A

Program and Financing (in thousnads of dollars)

Identification Code 14-1036-0-1-303	1976 actual	TQ actual	1977 estimate	1978 estimate
Program by activities:				
Direct program:				
1. Park management	235,516	76,942	278,856	306,616
2. Forest fire suppression and rehabilitation of burned areas	916	695	700	700
3. Executive direction	5,524	1,262	5,937	5,939
4. Park recreation and wilderness planning	--	--	--	3,726
5. Cooperative programs	--	--	--	4,178
6. Statutory or contractual aid	--	--	--	1,988
Total direct program	241,956	78,899	285,493	323,147
Reimbursable program:				
1. Sale of living farm products	14	2	30	20
2. Quarters and subsistence charges	3,520	1,362	--	--
Total reimbursable program	3,534	1,364	30	20
Total program costs, funded	245,490	80,263	285,523	323,167
Change in selected resources (undelivered orders)	4,047	10,700	--	--
10.00 Total obligations	249,537	90,963	285,523	323,167
Financing:				
14.00 Offsetting collections from: Non-Federal sources	-3,534	-1,364	-30	-20
21.00 Unobligated balance, start of period	--	-9,200	--	--
24.00 Unobligated balance, end of period	9,200	--	--	--
25.00 Unobligated balance lapsing	--	98	--	--
Budget authority	255,203	80,498	285,493	323,147

A-11-32A

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		1976 actual	TQ actual	1977 estimate	1978 estimate
	Budget authority:				
40.00	Appropriation	255,203	80,498	276,485	323,147
41.00	Transferred to other accounts	--	--	-140	--
43.00	Appropriation (adjusted)	--	--	276,345	--
44.10	Supplemental now requested for wage-board pay raises.	--	--	4,228	--
44.20	Supplemental now requested for civilian pay raises	--	--	4,920	--
	Relation of obligations to outlays:				
71.00	Obligations incurred, net	246,003	89,599	285,493	323,147
72.00	Obligated balance, start of period	39,997	37,322	48,338	48,151
74.00	Obligated balance, end of period	-37,322	-48,338	-48,151	-45,150
77.00	Adjustments in expired accounts	-531	130	--	--
90.00	Outlays, excluding pay raise supplemental	248,148	78,713	276,898	325,782
91.10	Outlays from wage-board pay raise supplemental	--	--	4,058	170
91.20	Outlays from civilian pay raise supplemental	--	--	4,724	196

A-11-34A

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OPERATION OF THE NATIONAL PARK SYSTEM

Object Classification (in thousands of dollars)

Identification Code 14-1036-0-1-303	1976 actual	TQ actual	1977 estimate	1978 estimate
Reimbursable obligations:				
Personnel compensation:				
11.1 Permanent positions	570	220	--	--
11.3 Positions other than permanent	563	217	--	--
11.5 Other personnel compensation	24	9	--	--
Total personnel compensation	1,157	446	--	--
Personnel benefits:				
12.1 Civilian	106	41	--	--
21.0 Travel and transportation of persons	2	1	--	--
22.0 Transportation of things	29	11	--	--
Rent, communications, and utilities:				
23.2 Other rent, communications, and utilities	377	146	--	--
24.0 Printing and reproduction	--	165	--	--
25.0 Other services	427	408	--	--
26.0 Supplies and materials	1,057	136	30	20
31.0 Equipment	353	10	--	--
32.0 Lands and structures	26	--	--	--
99.0 Total reimbursable obligations	3,534	1,364	30	20

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OPERATION OF THE NATIONAL PARK SYSTEM

Object Classification (in thousnads of dollars)

Identification Code 14-1036-0-1-303	1976 actual	TQ actual	1977 estimate	1978 estimate
Direct obligations:				
Personnel compensation:				
11.1 Permanent positions	98,639	24,040	124,703	137,750
11.3 Positions other than permanent	44,847	19,715	53,885	57,699
11.5 Other personnel compensation	4,455	2,671	5,461	5,737
Total personnel compensation	147,941	46,426	184,049	201,186
Personnel benefits:				
12.1 Civilian	16,116	4,900	19,755	21,392
13.0 Benefits for former personnel	9	10	--	--
21.0 Travel and transportation of persons	5,062	1,573	5,644	5,674
22.0 Transportation of things	3,477	1,106	2,959	2,977
Rent, communications and utilities:				
23.1 Standard level user charges	4,523	957	4,793	5,010
23.2 Other rent, communications, and utilities	8,946	2,733	12,601	13,004
24.0 Printing and reproduction	2,115	247	2,071	2,090
25.0 Other services	26,373	15,358	21,731	36,264
26.0 Supplies and materials	21,183	9,591	22,160	24,245
31.0 Equipment	8,293	5,039	11,289	11,741
32.0 Lands and structures	1,643	1,626	2,441	3,564
42.0 Insurance claims and indemnities	322	33	--	--
Subtotal	246,003	89,599	289,493	327,147
95.0 Quarters and Subsistence charges	--	--	-4,000	-4,000
Reimbursable program	3,534	1,364	30	20
99.0 Total obligations	249,537	90,963	285,523	323,167

A-11-34A

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OPERATION OF THE NATIONAL PARK SYSTEM

Personnel Summary

Identification Code 14-1036-0-1-303	1976 actual	1977 estimate	1978 estimate
Direct Program:			
Total number of permanent positions ...	6,986	7,767	8,713
Full-time equivalent of other positions	4,866	5,100	5,588
Average paid employment	15,657	12,796	13,844
Average GS grade	9.04	8.86	8.80
Average GS salary	$16,555	$16,555	$16,555
Average salary of ungraded positions ..	$14,226	$14,226	$14,226
Reimbursable Program:			
Total number of permanent positions ...	6		
Full-time equivalent of other positions	50		
Average paid employment	56		
Average GS grade	9.04		
Average GS salary	$16,555		
Average salary of ungraded positions ..	$14,226		

NATIONAL PARK SERVICE

Construction

Appropriation, 1977	$40,097,000	
Unobligated balance from prior period	20,851,475	
Less portion of 1977 appropriation available in prior period	-111,000	
Total available for obligation		$60,837,475
Decreases:		
Buildings, utilities, and other facilities	48,642,475	
Park, Recreation and Wilderness Planning	6,501,000	
Cooperative programs	3,438,000	
Statutory or contractual aid for other activities	2,256,000	
Subtotal		-60,837,475
Increases:		
Buildings, utilities, and other facilities	30,668,000	
Roads, trails, and parkways	21,522,000	
Total available for obligation		52,190,000
Less: Unobligated balance from 1977		...
Budget Estimate 1978		52,190,000

NATIONAL PARK SERVICE

Construction

Analysis by Activities

Activity/Subactivity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
1. Buildings, Utilities and Other Facilities								80
Appropriation	$18,514,000	$31,749,000	217	$30,668,000	217	$-1,081,000	--	
Unobligated balance br't fwd	35,270,755	14,829,000		--		-14,829,000		
Obligation program	-38,955,755	-46,578,000		-30,668,000		+15,910,000		
Unobligated balance carried fwd	14,829,000	--		--	--	--		
2. Roads, Trails, and Parkways								84
Appropriation	--	--	123	21,522,000	123	+21,522,000	--	
Unobligated balance br't fwd	--	--		--		--		
Obligation program	--	--		-21,522,000		-21,522,000		
Unobligated balance carried fwd	--	--	--	--	--	--		
Total Appropriation	18,514,000	31,749,000	340	52,190,000	340	+20,441,000		
Total Unobligated br't forward	35,270,755	14,829,000		--		-14,829,000		
Total Obligation program	-38,955,755	-46,578,000		-52,190,000		-5,612,000		
Total Unobligated carried forward	14,829,000	--		--	--	--	--	

NATIONAL PARK SERVICE

Construction

Analysis by Activities

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
	(Direct Appropriations)				
1. Buildings, utilities and other facilities	$18,514,000	$31,749,000	$30,668,000	$-1,081,000	80
2. Roads, trails, and parkways	--	--	21,522,000	+21,522,000	84
Totals	18,514,000[a/]	31,749,000[b/]	52,190,000	+20,441,000	

a/ Excludes $8,943,000 portion of appropriation shown in Operation of the National Park System for comparative purposes; actual appropriation is $27,457,000.

b/ Excludes $8,348,000 portion of appropriation shown in Operation of the National Park System for comparative purposes; actual appropriation is $40,097,000.

1. Buildings, Utilities and Other Facilities. Fiscal year 1977, $31,749,000; Fiscal year 1978, $29,176,000; decrease of $2,573,000. The decrease consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) --		$2,600,000		Advance Planning
(B) --		1,400,000		Lump Sum
(C) -$2,573,000		25,176,000	217	Line Item Construction
- 2,573,000		29,176,000	217	

Program Synopsis

Construction funds make it possible to stabilize and restore historic structures, to protect existing Federal investments in recreation facilities, to develop parks for visitor use and enjoyment, and to manage use with as little damage to park resources as possible.

In recent years facilities required at newer areas have been postponed because of the emphasis upon curbing pollution and celebrating the Bicentennial. Nearly 100 areas have been added to the National Park System in the last 15 years. In many of these areas access and circulation roads and trails, visitor use facilities, sewerage and utility systems, etc. are required before the park can be used. Other areas recently added to the System contain former State parks with existing facilities which badly need repairs. The repair and rehabilitation of older roads and structures have also been postponed. A little over 20 years ago the Service embarked on a comprehensive building program called "Mission 66." These facilities have aged to the point where major repairs are required. It is less expensive to repair and upgrade these structually sound older facilities than it is to build new ones. An estimated 40 percent of total construction funding needs are for major repair and rehabilitation of non-historic structures.

In addition to visitor use and support facilities, the System contains many historic structures. While a few of these structures are well-maintained, many others are in bad repair.

Other factors which influence the need for construction in the parks include: legislation and Executive Orders, such as the Federal Water Pollution Control Act, and the Occupational Safety and Health Act; and increasing visitor use demand.

A. Advance Planning

Fiscal year 1977, $2,600,000; Fiscal year 1978, $2,600,000; no change.

Major Program Changes
NONE

Total $2,600,000

Proposal. No increase is requested.

Justification. No increase is requested.

Cost Factors. No increase is requested.

Program Description. The Service plans construction in three steps: (1) advance planning is completed; (2) working drawings are prepared; and (3) construction takes place. In the advance planning step, topographic and aerial surveys are obtained, comprehensive designs, utility negotiations, soil tests and archeological research are done and preliminary drawings are prepared.

Also during this step accurate cost estimates are prepared thereby avoiding later cost overruns. Enough information about the environment is collected so that the buildings may be built in the most environmentally acceptable location. Finally, advance planning permits orderly scheduling of projects. Wasteful and expensive delays, usually caused by a lack of information, are held to a minimum.

Moreover, advance planning is important because park resources must be protected. The topographic surveys, soil tests, etc. help assure that constructed projects are in the most environmentally acceptable location.

B. Lump Sum

Fiscal year 1977, $1,400,000; Fiscal year 1978, $1,400,000; no change.

Major Program Changes	
NONE	Total $1,400,000

Proposal. No increase is requested.

Justification. No increase is requested.

Cost Factors. No increase is requested.

Program Description. Each year, throughout the National Park System, unanticipated emergencies occur. Pipes leak; air-conditioning or heating systems fail; violent storms cause damage; and historic structures need to be stabilized on an emergency basis. Lump sum funding is the most effective method of correcting these conditions because the repairs can be made quickly without asking Congress to approve numerous small and routine reprogramming requests. A detailed listing of how the lump sum money was spent is provided to Congress at the end of the fiscal year. This program provides needed administrative flexibility. This "lump sum" amount is an effective way to respond to emergency conditions by repairing facilities as soon as possible.

C. Line Item

Fiscal year 1977, $27,749,000; Fiscal year 1978, $25,176,000; decrease of $2,573,000.

Major Program Changes	
(1) Line Item Construction	-$2,573,000; total $25,176,000 Total 217 positions.

Proposal. Line item construction for buildings, utilities, and other facilities will be reduced.

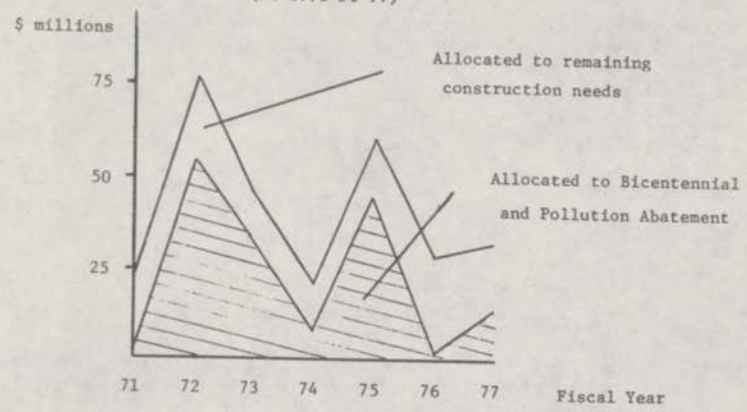
Justification. Higher priority operating needs necessitate the reduction in line item construction.

Cost Factors. No increase is requested.

Program Description. Construction or reconstruction of facilities makes it possible for the visitor to use and enjoy the parks, helps the Service channel the use so as to preserve the resource, and maintains a sizeable Government investment.

For the past several years, the Service has emphasized pollution abatement and the Bicentennial celebration in its construction program. This is illustrated in the following graph:

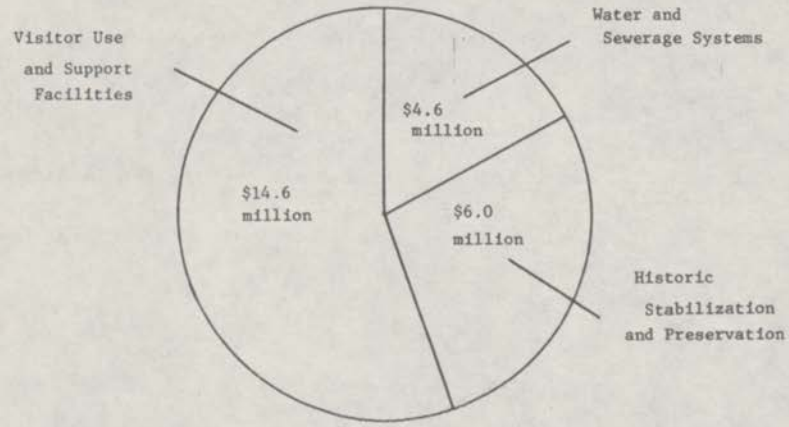
Construction Program Emphasis
(FY 1971-FY 77)



The emphasis on these two programs has meant the postponement of visitor facilities needed in newer areas and repairs on older facilities.

For fiscal year 1978 construction funds will be allocated as shown on the following graph:

Allocation of Line Item Construction
(FY 1978)



Examples of line item construction projects this year include: to begin stabilizing the foundation of El Morro National Monument to prevent this fort from toppling into the sea; to build visitor use facilities at Gulf Islands National Seashore to provide for heavy visitor use at the beaches; to build sewerage systems so that the water in parks remains clean and to stabilize and prevent the loss of a number of historic structures.

A detailed listing of these high priority projects is provided separately.

2. Roads, Trails, and Parkways. Fiscal year 1977, $16,618,000; Fiscal year 1978, $23,014,000; increase of $6,396,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) --	--	$2,400,000	--	Advance Planning
(B) - 1,000,000	--	1,600,000	--	Lump Sum
(C) +$7,396,000	--	19,014,000	123	Line Item
+ 6,396,000	--	23,014,000	123	

Program Synopsis

Roads, trails and parkways planning and construction funds are used to rehabilitate, reconstruct and construct visitor access, recreation use and operational support roads, trails and parkways throughout the National Park System. The program is organized around a three phase planning, design, construction concept to insure orderly execution of the development program. The first phase, advance planning, is to undertake topographic and aerial surveys and prepare development concept plans, preliminary drawings and cost estimates. The second phase, design, calls for working drawings and specifications, and the final phase is for actual construction or reconstruction. This process normally takes 2 to 4 years depending on the size, complexity, and scope of the project. The intent of this sequential planning-design-construction concept is to assure that the highest level of obligations is incurred through contract awards within the funding level available for the current year.

A. Advance Planning

Fiscal year 1977, $2,400,000; Fiscal year 1978, $2,400,000; no change.

Major Program Changes
NONE Total $2,400,000

Proposal. No increase is requested. Workload increases will be absorbed.

Justification. No increase is requested.

Cost Factors. No increase is requested.

Program Description. This program provides for necessary investigations and plans prior to road, trail, or parkway construction or reconstruction. Roads must be carefully planned. Without such planning, road construction can cause damage to resources and thus detract from the visitor's appreciation of the park. This money is used to obtain topographic and aerial surveys, comprehensive designs, research into archeological remains likely to be disturbed, and accurate cost estimates. Thus, the Service is able to construct or reconstruct roads in an environmentally responsibile manner.

B. Lump Sum

Fiscal year 1977, $2,600,000; Fiscal year 1978, $1,600,000; decrease of $1,000,000.

Major Program Changes
(1) Lump Sum -$1,000,000; total $1,600,000

Proposal. Transfer portion of lump sum funding to line item construction projects.

Justification. Lump sum program experience justifies transfer of funding to line item construction needs.

Cost Factors. Decrease based on program experience.

Program Description. Lump sum funds are spent as the need arises. This provides needed administrative flexibility so that small problems may be corrected before they become larger ones. These funds are used to repair small potholes, pavement breaks, etc., that occur throughout the year. Because of severe climatic conditions and terrain in many areas, these repairs are needed regularly. The average cost of each project is approximately $25,000. Thus, about 60 to 70 projects are undertaken each year.

A list of projects is supplied to Congress at the end of the year.

C. Line Item

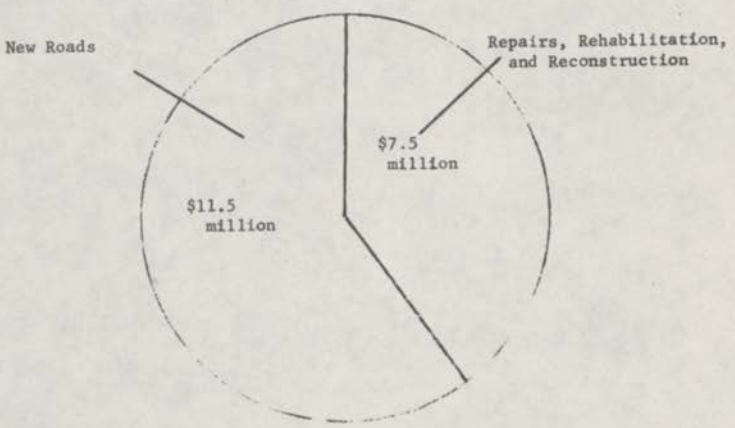
Fiscal year 1977, $11,618,000; Fiscal year 1978, $19,014,000; increase of $7,396,000.

Major Program Changes
(1) Line Item Construction +$7,396,000; total $19,014,000
Total 123 positions.

Proposal. This increase will expand the program for construction and major repair of roads both at newer areas and at older areas.

The following graph illustrates the allocation of road construction funds proposed for fiscal year 1978:

Allocation of Line Item Construction



83-561 O - 77 - 37

Justification. There are about 7,500 miles of visitor use roads in the National Park System. In addition, new areas often require access and circulation roads or trails. Examples of major work to be done in fiscal year 1978 are:

Park	Project	Amount
Fort Sumter NM	Construct dock, parking area	$4,043,000
Blue Ridge Parkway	Construct 1.0 mile of main-line parkway	3,930,000
Big Bend NP	Reconstruct 10 miles of Route 1	3,272,000
Glacier NP	Resurface Chief Mountain Road	2,924,000
Gulf Islands NS	Construct .5 miles of access road	1,087,000

Cost Factors. Major cost factors include the length and width of the road and the terrain to be crossed. Most Service roads are two-lane to prevent resource damage.

Program Description. Roads, trails, and parkways provide a ready means of access to parks and an effective means of circulation within parks. For fiscal year 1978, 60 percent of the line item request will be for new capacity, and the remaining 40 percent will be used for major repair or reconstruction.

A detailed listing of projects is provided separately.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

SUMMARY OF FISCAL 1978 CONSTRUCTION PROGRAM BY REGION

Line Item Projects

REGION	CONSTRUCTION		
Projects:	Buildings and Utilities, etc.	Roads, Trails and Parkways	Total
Rocky Mountain	$3,681,000	$3,555,000	$ 7,236,000
North Atlantic	1,779,000	--	1,779,000
National Capital Region	1,929,000	82,000	2,011,000
Mid-Atlantic	710,000	--	710,000
Southeast	6,793,000	9,366,000	16,159,000
Midwest	2,687,000	176,000	2,863,000
Southwest	1,414,000	5,064,000	6,478,000
Western	3,019,000	110,000	3,129,000
Pacific Northwest	3,164,000	661,000	3,825,000
Subtotals	25,176,000	19,014,000	44,190,000
Lump Sum Items:			
Major Alterations and Improvements	1,300,000	--	1,300,000
Roads and Trails Improvements, Betterments, Resurfacing and Reconstruction	--	1,400,000	1,400,000
Facilities to Serve Concessions Developments	100,000	200,000	300,000
Advance Planning	2,600,000	2,400,000	5,000,000
TOTALS	29,176,000	23,014,000	52,190,000

Region, Park and Project Descriptions	CONSTRUCTION Buildings and Utilities, Etc.	Roads, Trails, and Parkways
ROCKY MOUNTAIN REGION		
Glacier NP (Montana) $5,767,000		
Park General		
Reconstruct Sewage System (141)	$2,211,000	$ --
Chief Mountain		
Resurface Chief Mountain Road (124)	--	2,924,000
Many Glacier		
Project Planning for Reconstruction of Water System Reservoir (131)	46,000	--
Saint Mary		
Replace Divide Creek Bridge (240)	--	586,000
Subtotal	2,257,000	3,510,000
Grand Teton NP (Wyoming) $130,000		
Leeks Lodge		
Project Planning for Construction of Concession Ramp, Dock, Roads and Utilities (104)	85,000	45,000
Subtotal	85,000	45,000
Knife River Indian Villages NHS (North Dakota) $213,000		
Park General		
Knife River Bank Stabilization (103)	213,000	--
Subtotal	213,000	--
Rocky Mountain NP (Colorado) $218,000		
Park General		
Construct Water Supply System and Underground Reservoir (001)	122,000	--
Endo Valley Campground		
Replace Water Storage System (140)	96,000	--
Subtotal	218,000	--
Timpanogos Cave NM (Utah) $208,000		
Park General		
Replace 1,644 feet of 4-inch Water Lines with Hydrants and Valves (102)	103,000	--
Replace Cave Lighting System (106)	105,000	--
Subtotal	208,000	--

Region, Park and Project Descriptions	CONSTRUCTION	
	Buildings and Utilities, Etc.	Roads, Trails, and Parkways
ROCKY MOUNTAIN REGION (Continued)		
Yellowstone NP (Wyoming) $700,000		
Mammoth		
Project Planning for Construction of Water Intake and Distribution System (113)	$ 560,000	$ --
Old Faithful		
Project Planning for Building of Water Treatment Storage System (140)	140,000	--
Subtotal	700,000	--
Totals, Rocky Mountain Region	$3,681,000	$3,555,000

Region, Park and Project Descriptions	CONSTRUCTION Buildings and Utilities, Etc.	Roads, Trails, and Parkways
NORTH ATLANTIC REGION		
Boston NHP (Massachusetts) $292,000		
Old South Meeting House		
Rehabilitate Old South Meeting House (109)	$ 292,000	$ --
Subtotal	292,000	--
Edison NHS (New Jersey) $473,000		
Park General		
Install Fire and Intrusion Detection Systems (112)	473,000	--
Subtotal	473,000	--
Sagamore Hill NHS (New York) $52,000		
Park General		
Replace Heat and Air-Conditioning in Theodore Roosevelt Home (103)	52,000	--
Subtotal	52,000	--
Statue of Liberty NM (New York) $962,000		
Liberty Island		
Repair Passenger Dock (128)	712,000	--
Ellis Island		
Rehabilitate Tower Roofs on the Main Building (Portion) (107)	250,000	--
Subtotal	962,000	--
Totals, North Atlantic Region	$1,779,000	--

Region, Park and Project Descriptions	CONSTRUCTION	
	Buildings and Utilities, Etc.	Roads, Trails, and Parkways
NATIONAL CAPITAL REGION		
President's Park (District of Columbia) $917,000		
White House-Executive Residence Reconstruct Electrical System (247)	$ 917,000	$ --
Subtotal	917,000	--
Catoctin Mountain Park (Maryland) $25,000		
Park General		
Project Planning for Replacement of Dormitory Building at Camp Round Meadow (125)	25,000	--
Subtotal	25,000	--
Chesapeake and Ohio Canal NHP (District of Columbia-Maryland-Virginia) $674,000		
Park General		
Project Planning for Stabilizing and Repairing Five Historic Lockhouses (107)	26,000	--
Project Planning for Repairing Culvert 126 (108)	13,000	--
Allegheny District		
Project Planning for Repairing Culvert (105)	9,000	--
Stabilize Paw Paw Tunnel (153)	327,000	--
Palisades District		
Project Planning for Repairing Culvert (103)	11,000	--
Stabilize and Repair Masonary Walls and Locks, Georgetown Section (246)	197,000	--
Piedmont District		
Project Planning for 3.6 Miles of Towpath Repair Level 27; Stabilizing Broadrim Trunk and Lockhouse #75; Repairing Culverts (101,102, 104,106)	91,000	--
Subtotal	674,000	--

Region, Park and Project Descriptions	CONSTRUCTION Buildings and Utilities, Etc.	Roads, Trails, and Parkways
NATIONAL CAPITAL REGION (Continued)		
George Washington Memorial Parkway (Maryland-Virginia-District of Columbia) $123,000		
Fort Hunt		
Project Planning to Replace Maintenance Facility and Install Solar Energy (114)	$ 41,000	$ --
Theodore Roosevelt Island		
Project Planning for the Construction of Pedestrian and Light Vehicular Bridge to Theodore Roosevelt Island and Construction of Pedestrian/Bicycle Overpass Across Parkway (170)	--	82,000
Subtotal	41,000	82,000
National Capital Parks--East (Maryland) $183,000		
Fort Washington		
Restore and Stabilize Historic Fort at Fort Washington (106)	183,000	--
Subtotal	183,000	--
Wolf Trap Farm Park (Virginia) $89,000		
Park General		
Construct Maintenance Facility to House Equipment and Materials for the Maintenance Crew on a Year-Round Operation (103)	89,000	--
Subtotal	89,000	--
Totals, National Capital Region	$1,929,000	$ 82,000

Region, Park and Project Descriptions	CONSTRUCTION	
	Buildings and Utilities, Etc.	Roads, Trails, and Parkways
MID-ATLANTIC REGION		
Gettysburg NMP (Pennsylvania) $79,000		
Park General		
Emergency Repair of McPherson Barn (147)	$ 79,000	$ --
Subtotal	79,000	--
Hampton NHS (Maryland) $45,000		
Park General		
Project Planning for Restuccoing Mansion Exterior Walls and Restoring Stone Steps of Entrances (102)	45,000	--
Subtotal	45,000	--
Hopewell Village NHS (Pennsylvania) $75,000		
Park General		
Project Planning for the Preservation and Rehabilitation of Ironmaster's House (102)	75,000	--
Subtotal	75,000	--
Independence NHP (Pennsylvania) $511,000		
Area F		
Rehabilitation of Historic Fulton House and Site Improvements, Phase I-Demolition of Non-Historic Buildings (126)	511,000	--
Subtotal	511,000	--
Totals, Mid-Atlantic Region	$ 710,000	--

Region, Park and Project Descriptions	CONSTRUCTION	
	Buildings and Utilities, Etc.	Roads, Trails, and Parkways
SOUTHEAST REGION		
Biscayne NM (Florida) $1,037,000		
Elliott Key		
Rehabilitate Marina and Construct Visitor Facilities (105)	$1,037,000	$ --
Subtotal	1,037,000	--
Blue Ridge Parkway (North Carolina) $3,930,000		
Section 2H		
Construct 1.0 Miles of Mainline Parkway (Grandfather Mountain) (105)	--	3,930,000
Subtotal	--	3,930,000
Everglades NP (Florida) $418,000		
Royal Palm		
Rehabilitate Visitor Center and Construct Comfort Station (102)	418,000	--
Subtotal	418,000	--
Fort Sumter NM (South Carolina) $5,581,000		
Park General		
Construct Broad Street Dock, 160-Car Parking Area, Visitor Contact/Comfort Station, Utilities (105)	1,538,000	4,043,000
Subtotal	1,538,000	4,043,000
Gulf Islands NS (Florida-Mississippi) $1,879,000		
Davis Bayou		
Project Planning for Construction of Visitor/Administrative Facility, Boat Docks, Camping Area, Roads and Parking (120)	236,000	106,000
Naval Live Oaks		
Construct .5 Miles of Access Road and Parking and Utilities (112)	450,000	1,087,000
Subtotal	686,000	1,193,000

Region, Park and Project Descriptions	CONSTRUCTION Buildings and Utilities, Etc.	Roads, Trails, and Parkways
SOUTHEAST REGION (Continued)		
San Juan NHS (Puerto Rico) $2,344,000		
Park General		
Subsurface Grouting and Foundation Treatment Beneath North Walls of El Morro and Special Investigations and Studies (127)	$2,344,000	$ --
Subtotal	2,344,000	--
Vicksburg NMP (Mississippi) $970,000		
Cairo Development Site		
Construct Shelter to House and Display the Gunboat Cairo and Parking Area (101)	770,000	200,000
Subtotal	770,000	200,000
Totals, Southeast Region	$6,793,000	$9,366,000

Region, Park and Project Descriptions	CONSTRUCTION Buildings and Utilities, Etc.	Roads, Trails, and Parkways
MIDWEST REGION		
Fort Larned NHS (Kansas) $644,000		
Park General		
Stabilize Historic Structures (157)	$ 644,000	$ --
Subtotal	644,000	--
Isle Royale NP (Michigan) $155,000		
Rock Harbor		
Install Pumping Station and Underground Fuel Storage Tanks (177)	155,000	--
Subtotal	155,000	--
Jefferson National Expansion Memorial NHS (Missouri) $1,679,000		
Park General		
Repair and Rehabilitate Roof of Old Courthouse Building to Prevent Water Intrusions (201)	406,000	--
Landscape, Grounds, Grading, Seeding, and Sprinkler System (202)	1,109,000	164,000
Subtotal	1,515,000	164,000
Saint Croix NSR (Wisconsin-Minnesota) $330,000		
Park General		
Design and Install Radio System for the Riverway (121)	330,000	--
Subtotal	330,000	--
Sleeping Bear Dunes NL (Michigan) $55,000		
Sleeping Bear Bay		
Project Planning for Rehabilitation of Old Coast Station for Adaptive Use as Museum and Visitor Contact Services (124)	43,000	12,000
Subtotal	43,000	12,000
Totals, Midwest Region	$2,687,000	$ 176,000

Region, Park and Project Descriptions	CONSTRUCTION	
	Buildings and Utilities, Etc.	Roads, Trails, and Parkways
SOUTHWEST REGION		
Big Bend NP (Texas) $3,900,000		
Park General		
Reconstruct 10 Miles of Route 1 (109)	$ --	$3,272,000
Panther Junction		
Complete Construction of Sewage Treatment System (133)	244,000	--
Construct Entrance Road, Parking, Walks and Utility Connections for Concession Quarters (149)	134,000	250,000
Subtotal	378,000	3,522,000
Chaco Canyon NM (New Mexico) $556,000		
Park General		
Construct Office-Workroom-Laboratory and Parking for Chaco Center (111)	428,000	22,000
Construct One Duplex (Two 3-Bedroom Units) Residence (106)	106,000	--
Subtotal	534,000	22,000
Guadalupe Mountains NP (Texas) $2,022,000		
Pine Spring		
Construct 5-Mile Entrance Road to McKittrick Canyon, Parking, Comfort and Contact Station (114)	502,000	1,520,000
Subtotal	502,000	1,520,000
Totals, Southwest Region	$1,414,000	$5,064,000

Region, Park and Project Descriptions	CONSTRUCTION Buildings and Utilities, Etc.	Roads, Trails, and Parkways
WESTERN REGION		
Channel Islands NM (California) $618,000		
Park General		
Project Planning for the Construction of Administration Headquarters and Visitor Center (107)	$ 526,000	$ 92,000
Subtotal	526,000	92,000
Coronado NMem (Arizona) $187,000		
Park General		
Construct Water System (106)	187,000	--
Subtotal	187,000	--
Death Valley NM (California) $43,000		
Furnace Creek		
Restoration of Harmony Borax (183)	43,000	--
Subtotal	43,000	--
Joshua Tree NM (California) $132,000		
Park General		
Construct Concrete-Steel Covers for 10 Mine Shafts for Visitor Protection (219)	132,000	--
Subtotal	132,000	--
Lake Mead NRA (Nevada-Arizona) $987,000		
Boulder Beach		
Expand Electrical Power System (140)	987,000	--
Subtotal	987,000	--
Lehman Caves NM (Nevada) $120,000		
Park General		
Construct Sewage Lagoon and Trailer Dump Station (106)	120,000	--
Subtotal	120,000	--
Montezuma Castle NM (Arizona) $96,000		
Park General		
Replace Comfort Station (104)	96,000	--
Subtotal	96,000	--

Region, Park and Project Descriptions	CONSTRUCTION	
	Buildings and Utilities, Etc.	Roads, Trails, and Parkways
WESTERN REGION (Continued)		
Sequoia NP (California) $782,000		
Giant Forest		
Reconstruct Water, Sewer and Electric System (103)	$ 782,000	$ --
Subtotal	782,000	--
Tonto NM (Arizona) $164,000		
Park General		
Construct Utility Building and Pave and Fence Utility Area (104)	109,000	18,000
Stabilize Mudstone Bedrock (114)	37,000	--
Subtotal	146,000	18,000
Totals, Western Region	$3,019,000	$ 110,000

Region, Park and Project Descriptions	CONSTRUCTION Buildings and Utilities, Etc.	Roads, Trails, and Parkways
PACIFIC NORTHWEST REGION		
Glacier Bay NM (Alaska) $511,000		
Park General		
Rehabilitate Runway Gustavus Airport (Completion) (132)	$ --	$ 511,000
Subtotal	--	511,000
Mount McKinley NP (Alaska) $1,360,000		
Park General		
Project Planning for Construction of New Bridge at Savage River Bridge (Replacement) (163)	--	150,000
Installation of Commercial Power (164)	885,000	--
Headquarters		
Install Fuel Pumping Station and Underground Storage (116)	325,000	--
Subtotal	1,210,000	150,000
Mount Rainier NP (Washington) $100,000		
Paradise		
Project Planning for Rehabilitation of Paradise Inn Building (176)	100,000	--
Subtotal	100,000	--
North Cascades NP (Washington) $1,300,000		
Newhalem		
Construct 100 Campsites, 4 Comfort Stations and Utility Systems at Newhalem (124)	1,300,000	--
Subtotal	1,300,000	--
Sitka NHP (Alaska) $554,000		
Park General		
Construct Multi-Use Utility Building to Provide Shelter and Display of Totem Poles and Equipment Storage (108)	554,000	--
Subtotal	554,000	--
Totals, Pacific Northwest Region	3,164,000	661,000
GRAND TOTALS	$25,176,000	$19,014,000

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) [; the acquisition of water rights; expenses necessary for investigation and studies to determine suitability of areas to be included in the National Park System, the designation of wilderness areas, and the management of water resources; the preparation of plans for existing and proposed park and recreation areas; provisions of technical assistance to other Federal agencies, and to States and private institutions in the planning, development, and operation of landmarks, parks, and recreation areas; and for financial or other assistance in planning, development, or operation of areas as authorized by law or pursuant to agreements with other Federal agencies, States, or private institutions, including not to exceed $257,000 for the Roosevelt Campobello International Park Commission, $40,097,000]. *$52,190,000,* to remain available until expended[:*Provided*, That $2,060,000 shall be available for obligation only upon the enactment into law of authorizing legislation providing for the acquisition of locomotives and related facilities at the Golden Spike National Historic Site. Of the amount appropriated under this section, $111,000 shall be available for the payment of obligations outstanding on the date of enactment of this Act which were incurred in the development of the Chamizal National Memorial of Texas]. *(16 U.S.C. 1,1b,7a-e, 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. 588); Department of the Interior and Related Agencies Appropriation Act, 1977.)*

Appropriation Language Changes

1. Activities Transferred Out
   Activity 3 - Park, Recreation and Wilderness Planning
   Activity 4 - Cooperative Programs
   Activity 5 - Statutory or Contractual Aid for Other Activities

Activities listed above were transferred to the "Operation of the National Park System" appropriation since they are operations oriented.

Other Changes

Appropriation title changed from "Planning and Construction" to "Construction." Change made to reflect construction orientation of work performed under this appropriation after transfer of activities described in preceding paragraph.

83-561 O - 77 - 38

Program and Financing (in thousands of dollars)

Identification code 14-1039-0-1-303	Costs to this appropriation						Analysis of 1978 financing			
	Total estimate	To June 30, 1975	1976 actual	Transition actual	1977 estimate	1978 estimate	Deduct selected resources and unobligated balance, start of year	Add selected resources and unobligated balance, end of year	Appropriation required 1978	Appropriation required to complete
Program by activities:										
1. Buildings, utilities & other facilities	1,866,903	458,394	48,713	10,828	48,642	30,668	26,945	26,945	30,668	1,242,713
2. Park, recreation, and wilderness planning			6,646	1,920	6,501	--	--	--	--	
3. Cooperative programs			4,359	1,421	3,438	--	--	--	--	
4. Statutory or contractual aid for other activities			1,075	130	2,256	--	--	--	--	
5. Roads, trails, and parkways			--	--	--	21,522	--	--	21,522	
Total Direct Program			60,793	14,299	60,837	52,190	26,945	26,945	52,190	
Reimbursable Program:										
(a) Sale of utilities to concessioners and other			1,951	803	2,100	2,100				
(b) Miscellaneous			11,016	3,671	4,900	4,900				
Total Reimbursable Program			12,967	4,474	7,000	7,000				
Total program costs, funded			73,760	18,773	67,837	59,190				
Change in selected resources 1/			-13,887	-8,327	....	....				
10.00 Total obligations			59,873	10,446	67,837	59,190				

1/ Selected resources as of June 30 are as follows:

	1976	Transit.	1978	1979
Store	952	673	673	673
Unpaid undelivered orders	34,320	26,272	26,272	26,272
Total selected resources	35,272	26,945	26,945	26,945

NP 102

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CONSTRUCTION

A-11-32D

Financing and Outlays (in thousands of dollars)

Identification code 14-1039-0-1-303		1976 actual	19TQ actual	1977 estimate	1978 estimate
10.00	Total obligations	59,873	10,446	67,837	59,190
	Financing:				
	Offsetting collections from:				
11.00	Federal funds 1/	-9,706	-3,248	-5,000	-5,000
14.00	Non-Federal sources 2/	-3,261	-1,226	-2,000	-2,000
21.00	Unobligated balance available, start of period	-39,063	-19,613	-20,851	--
24.00	Unobligated balance available, end of period	19,613	20,851	--	--
28.00	Appropriation available from subsequent period	--	-111	--	--
29.00	Appropriation available in prior period	--	--	111	--
40.00	Budget authority (appropriation)	27,457	7,100	40,097	52,190
	Relation of obligations to outlays:				
71.00	Obligations incurred, net	46,907	5,972	60,837	52,190
72.00	Obligated balance, start of period	46,475	25,069	18,077	26,393
74.00	Obligated balance, end of period	-25,069	-18,077	-26,393	-26,917
90.00	Outlays	68,313	12,964	52,521	51,666

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CONSTRUCTION

A-11-32D

Financing and Outlays (in thousands of dollars)

Identification code 14-1039-0-1-303	1976 actual	19TQ actual	1977 estimate	1978 estimate

1/ Reimbursements from Federal funds are derived from the following agencies: Bureau of Reclamation for archeological research on reservoirs, reservoir recreational development plans, Youth Conservation Corps program support, Upper Colorado program, Lower Missouri program; Bureau of Land Management for preservation of prehistoric Indian rock arts; U.S. Fish and Wildlife Service for the grizzly bear study, Yellowstone animal control; Bureau of Indian Affairs for an archeological assistance program; Department of Army for services performed at the White Sands National Monument; U.S. Corps of Engineers for archeological investigations, erosion control studies, rental of charter helicopters; U.S. Forest Service for assistance in fighting fires, janitorial and utility services at Lehman Caves, assistance in maintenance of campgrounds; Bureau of Customs for providing sanitation services at Big Bend National Park, providing dock space and gasoline at Amistad National Recreation Area; General Services Administration for maintenance of motor vehicles at various park areas; District of Columbia Government for police services at RFK Stadium, services, supplies and equipment for Department of Schools at Catoctin's Environmental Center; U.S. Geological Survey for maintenance of motor vehicles at Hawaii Volcanoes National Park; International Boundary and Water Commission for archeological survey; Department of the Navy for electrial services and landscape planting for Camp David in Catoctin Mountain Park, mudjacking building at Yorktown, Virginia, sanitation services at Cape Hatteras Naval Facility; U.S. Treasury for maintenance of Treasury building grounds, salary and expenses of U.S. Park Police for Consolidated Federal Law Enforcement Training Center.

2/ Reimbursements from non-Federal sources above are derived from charges made for copies of records, documents, etc., plus 25 cents for each certificate of verfication; for transportation to and from work of employees of Carlsbad Caverns National Park; for furnishing all types of utility services to concessioners, contractors, permittees, or other users of such services; for furnishing supplies and the rental of equipment to persons and agencies that cooperate, render services, or perform functions that facilitate for supplement the administration of the National Park System and miscellaneous areas, medical attention for employees and to make payroll deductions agreed to by employees therefore; aid to visitors in emergencies; for furnishing meals and quarters to employees of the Government in the field and to cooperating agencies; for purchase of personal equipment and supplies for employees, and to make payroll deductions; procurement of supplies, materials and special services to aid permittees and licensees in emergencies; aid to State for planning public park, parkway, and recreational area facilities; sewage disposal system for Yorktown Area, Colonial National Historical Park; for the State of North Carolina's portion of the costs of lands being acquired by the Federal Government for purposes of Cape Hatteras National Seashore; for furnishing special road maintenance service to trucking permittees; for providing financial assistance for local educational agencies in areas affected by Federal activities; from sale of personal property; and from the Bi-State Development Agency for personal services for maintenance functions for the Gateway Arch transportation system at the Jefferson National Expansion Memorial.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CONSTRUCTION

A-11-34A

Object Classification (in thousands of dollars)

Identification code 14-1039-0-1-303		1976 actual	19TQ actual	1977 estimate	1978 estimate
Direct obligations:					
Personnel compensation:					
11.1	Permanent positions	10,252	1,491	10,765	10,496
11.3	Positions other than permanent	3,093	150	3,250	2,482
11.5	Other personnel compensation	220	51	230	191
	Total personnel compensation	13,565	1,692	14,245	13,169
Personnel benefits:					
12.1	Civilian	1,437	236	1,509	1,382
13.0	Benefits for former personnel	--	3	--	--
21.0	Travel and transportation of persons	1,539	374	1,608	1,521
22.0	Transportation of things	131	93	160	151
23.2	Rent, communications, and utilities: Other rent, communications, and utilities	445	--	540	511
24.0	Printing and reproduction	386	90	475	449
25.0	Other services	9,638	319	13,165	10,860
26.0	Supplies and materials	2,261	50	2,750	2,602
31.0	Equipment	-1,600	-498	500	568
32.0	Lands and structures	18,652	3,571	25,335	11,692
41.0	Grants, subsidies, and contributions	453	42	550	520
99.0	Total direct obligations	46,907	5,972	60,837	43,425

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CONSTRUCTION

A-11-34A

Object Classification (in thousands of dollars)

Identification code 14-1039-0-1-303		1976 actual	19TQ actual	1977 estimate	1978 estimate
	Reimbursable obligations:				
	Personnel compensation:				
11.1	Permanent positions	539	722	570	598
11.3	Positions other than permanent	414	713	435	457
11.5	Other personnel compensation	201	30	215	226
	Total personnel compensation	1,154	1,465	1,220	1,281
	Personnel benefits:				
12.1	Civilian	226	135	239	251
21.0	Travel and transportation of persons	287	3	150	155
22.0	Transportation of things	97	37	50	55
23.2	Rent, communications, and utilities: Other rent, communications, and utilities	536	467	290	300
24.0	Printing and reproduction	11	11	4	5
25.0	Other services	3,271	1,472	1,750	1,800
26.0	Supplies and materials	848	151	460	470
31.0	Equipment	462	--	245	250
32.0	Lands and structures	6,075	733	2,592	2,433
99.0	Total reimbursable obligations	12,967	4,474	7,000	7,000

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CONSTRUCTION

A-11-34A

Object Classification (in thousands of dollars)

Identification code 14-1039-0-1-303		1976 actual	19TQ actual	1977 estimate	1978 estimate
	Allocation obligations:				
	Personnel compensation:				
11.1	Permanent positions	--	--	--	1,005
11.3	Positions other than permanent	--	--	--	121
11.5	Other personnel compensation	--	--	--	79
	Total personnel compensation	--	--	--	1,205
	Personnel benefits:				
12.1	Civilian	--	--	--	117
21.0	Travel and transportation of persons	--	--	--	328
22.0	Transportation of things	--	--	--	65
23.2	Rent, communications, and utilities: Other rent, communications, and utilities	--	--	--	23
24.0	Printing and reproduction	--	--	--	15
25.0	Other services	--	--	--	636
26.0	Supplies and materials	--	--	--	45
31.0	Equipment	--	--	--	23
32.0	Lands and structures	--	--	--	6,308
	Total allocation obligations	--	--	--	8,765
	Total reimbursable obligations	12,967	4,474	7,000	7,000
99.0	Total obligations	59,873	10,446	67,837	59,190

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CONSTRUCTION

A-11-34A

Personnel Summary

Identification code 14-1039-0-1-303	1976 actual	1977 estimate	1978 estimate
NATIONAL PARK SERVICE			
Direct:			
Total number of permanent positions	359	374	340
Full-time equivalent of other positions	158	154	105
Average paid employment	561	529	471
Average GS grade	9.04	8.86	8.82
Average GS salary	$16,555	$16,555	$16,555
Average salary of ungraded positions	$14,226	$14,226	$14,226
Reimbursable:			
Total number of permanent positions	12	18	18
Full-time equivalent of other positions	202	197	197
Average paid employment	278	224	224
Average GS grade	9.04	8.86	8.82
Average GS salary	$16,555	$16,555	$16,555
Average salary of ungraded positions	$14,226	$14,226	$14,226
Allocations:			
Total number of permanent positions	--	--	31
Full-time equivalent of other positions	--	--	13
Average paid employment	--	--	43
Average GS grade	--	--	8.43
Average GS salary	--	--	$16,919

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Road Construction

Unexpended, start of 1977	$23,098,007	
Appropriation, 1977	21,800,000	21,800,000
Total available fiscal year 1977	44,898,007	
Less Road Construction (Estimated expenditures F.Y. 1977)	22,943,000	
Unexpended balance, start of 1978	21,955,007	
Budget Estimate, fiscal year 1978	30,198,271	30,198,271
Total available fiscal year 1978	52,153,278	
Less Road Construction (Estimated expenditures F.Y. 1978)	30,241,755	
Unexpended balance, start of 1979	21,911,523	
Increase in cash requested, fiscal year 1978 compared with fiscal year 1977		+8,398,271

Analysis of Cash by Fiscal Year

	Actual 1976	Transition Quarter	Estimate 1977	Estimate 1978	Increase or Decreases, F.Y. 1978 Compared with F.Y. 1977
Total expenditures, Road Construction	$40,968,839	$ 9,262,429	$22,943,000	$30,241,755	$+7,298,755
Unexpended balance, start of year	-23,314,275	-22,460,436	-23,098,007	-21,955,007	+1,143,000
Unexpended balance, end of year	22,460,436	23,098,007	21,955,007	21,911,523	-43,484
Appropriation to Liquidate Contract Authority	40,115,000	9,900,000	21,800,000	30,198,271	+8,398,271

CONTRACT AUTHORITY AND LIQUIDATION PROGRAM

	Contract Authorization Available	Obligations	Unliquidated Obligations Prior Years	Total Obligations	Unliquidated Obligations Carried Forward	Expenditures
			Fiscal Year 1976			
Roads, trails and parkways	$200,503,455 1/	$30,320,210	$43,818,336	$74,139,301	$33,170,462 2/	$40,968,839
			Transition Quarter			
Roads, trails and parkways	170,183,245	9,943,638	33,170,462	43,114,100	33,851,671	9,262,429
			Fiscal Year 1977			
Roads, trails and parkways	41,244,607	41,244,607	33,851,671	75,096,278	52,153,278	22,943,000
			Fiscal Year 1978			
Roads, trails and parkways	-0-	-0-	52,153,278	52,153,278	21,911,523	30,241,755

1/ Excludes $58,500,000 rescinded by Public Law 93-529

2/ Available cash for liquidation was $23,314,275

NATIONAL PARK SERVICE

Road Construction

Analysis by Activity

Activity/Subactivity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
1. Roads, trails, and parkways								112
Total Appropriation	$(40,115,000)	$(21,800,000)	--	$(30,198,271)	--	$ (8,398,271)	--	
Total Unobligated bal. br't forward	274,003,000	175,240,000		--		-175,240,000		
Reduction in contract authority under section 161(a) of Public Law 93-87		-15,000,000				-15,000,000		
Total Obligation program	-40,263,000	-41,245,000		--		41,245,000		
Total Unobligated balance carried forward	175,240,000	--	--	--	--	--	--	
Total Unobligated balance rescinded	58,500,000	118,995,000		--		-118,995,000		

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 are now included in the Planning and Construction appropriation account discussed under separate heading elsewhere in the Fiscal 1978 Budget Justifications.

Appropriation request (liquidating cash). The amount of $30,198,271 is requested in this appropriation to make payments as requirements accrue for the liquidation of obligations incurred under the contract authority for construction and reconstruction of roads, trails and parkways.

ROAD CONSTRUCTION [(LIQUIDATION OF CONTRACT AUTHORITY)]

For liquidation of obligations incurred pursuant to authority contained in title 23, United States Code, section 203, [$21,800,000] *$30,198,271*, to remain available until expended[*: Provided*, That $118,995,000 of unobligated balances of contract authority provided by the Federal-Aid Highway Act of 1973 (P.L. 93-87) and proposed to be unobligated as of September 30, 1977, is hereby rescinded effective October 1, 1976]. *(16 U.S.C. 1, 1a, 7a-e, 8, 8a, 8d, 17j-2, 461-467; 23 U.S.C. 201, 203; Act of August 9, 1955 (69 Stat. 555); Federal-Aid Highway Act, 1970 (84 Stat. 1713); Federal-Aid Highway Act, 1973 (72 Stat. 885); Department of the Interior and Related Agencies Appropriation Act, 1977.)*

A-11-32D

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
ROAD CONSTRUCTION

Financing and Outlays (in thousands of dollars)

Identification code 14-1037-0-1-303	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Program by activities:				
Roads, trails, and parkways (total program costs, funded)	41,664	10,422	41,245	--
Change in selected resources (undelivered orders)	-11,344	-478	--	--
10.00 Total obligations	30,320	9,944	41,245	--
Financing:				
Unobligated balance available, start of period				
21.49 Contract authority	-274,003	-185,183	-175,240	--
Unobligated balance available, end of period				
24.49 Contract authority	185,183	175,240	--	--
25.49 Contract authority lapsing	58,500	--	118,995	--
Budget authority	--	--	-15,000	--
Budget authority:				
Current:				
40.00 Appropriation	40,115	9,900	21,800	30,198
40.49 Portion applied to liquidate contract authority	-40,115	-9,900	-21,800	-30,198
43.00 Appropriation (adjusted)	--	--	--	--
49.10 Reduction in contract authority under section 161(a) of Public Law 93-87			-15,000	

A-11-32D

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
ROAD CONSTRUCTION

Identification code 14-1037-0-1-303	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Relation of obligations to outlays:				
71.00 Obligations incurred, net	30,320	9,944	41,245	--
Obligated balance, start of period				
72.40 Appropriation	23,314	22,460	23,098	21,955
72.49 Contract authority	20,504	10,710	10,753	30,198
Obligated balance, end of period				
74.40 Appropriation	-22,460	-23,098	-21,955	-21,912
74.49 Contract authority	-10,710	-10,753	-30,198	--
90.00 Outlays	40,969	9,262	22,943	30,241
Status of unfunded contract authority:				
Unfunded balance, start of period ..	294,508	195,893	185,993	30,198
Contract authority	--	--	--	--
Unfunded balance rescinded (Public Law 94-373)	-58,500	--	-118,995	--
Reduction in contract authority under section 161(a) of Public Law 93-87	--	--	-15,000	--
Appropriation to liquidate contract authority	-40,115	-9,900	-21,800	-30,198
Unfunded balance, end of period	195,893	185,993	-30,198	--

A-11-34A

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
ROAD CONSTRUCTION

Object Classification (in thousands of dollars)

Identification code 14-1037-0-1-303	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
National Park Service:				
Personnel compensation:				
11.1 Permanent positions	1,275	967	1,350	--
11.3 Positions other than permanent	1,168	998	1,225	--
11.5 Other personnel compensation	128	38	135	--
Total personnel compensation	2,571	2,003	2,710	--
Personnel benefits:				
12.1 Civilian	219	178	230	--
21.0 Travel and transportation of persons	298	227	208	--
22.0 Transportation of things	34	29	151	--
23.0 Rent, communications, and utilities	270	342	1,200	--
24.0 Printing and reproduction	43	48	200	--
25.0 Other services	5,644	2,384	16,097	--
26.0 Supplies and materials	719	500	3,200	--
31.0 Equipment	60	39	268	--
32.0 Lands and structures	2,914	2,832	10,006	--
99.0 Total obligations	12,772	8,582	34,270	--

A-11-34B

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
ROAD CONSTRUCTION

Object Classification (in thousands of dollars)

Identification code 14-1037-0-1-303		1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
	Allocation Accounts:				
	Personnel compensation:				
11.1	Permanent positions	681	126	957	--
11.3	Positions other than permanent	623	144	116	--
11.5	Other personnel compensation	68	13	75	--
	Total personnel compensation	1,372	283	1,148	--
	Personnel benefits:				
12.1	Civilian	138	24	111	--
21.0	Travel and transportation of persons	382	82	133	--
22.0	Transportation of things	76	28	61	--
23.0	Rent, communications, and utilities	28	3	22	--
24.0	Printing and reproduction	17	9	14	--
25.0	Other services	706	869	600	--
26.0	Supplies and materials	54	11	43	--
31.0	Equipment	28	5	22	--
32.0	Lands and structures	14,747	48	4,821	--
	Total obligations, Allocation Accounts	17,548	1,362	6,975	--
99.0	Total obligations	30,320	9,944	41,245	--

83-561 O - 77 - 39

A-11-34B

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
ROAD CONSTRUCTION

Personnel Summary

Identification code 14-1037-0-1-303	1976 Actual	1977 Estimate	1978 Estimate
NATIONAL PARK SERVICE			
Total number of permanent positions	123	123	--
Full-time equivalent of other positions	84	82	--
Average paid employment	236	209	--
Average GS grade	9.04	8.86	--
Average GS salary	$16,555	$16,555	--
Average salary of ungraded positions	$14,226	$14,226	--
ALLOCATION ACCOUNTS			
Total number of permanent positions	31	31	--
Full-time equivalent of other positions	13	13	--
Average number of all employees	39	43	--
Average GS grade	8.43	8.43	--
Average GS salary	$15,437	$16,978	--

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
TRUST FUNDS
FEDERAL-AID SYSTEM PARKWAYS
Program and Financing (in thousands of dollars)

Identification code 14-8215-0-7-404	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Financing:				
22.00 Unobligated balance transferred from other accounts	--	--	-15,000	--
23.00 Unobligated balance transferred to other accounts	--	--	15,000	--
40.00 Budget authority	--	--	--	--
Relation of obligations to outlays:				
71.00 Obligations incurred, net	--	--	--	--
90.00 Outlays	--	--	--	--

NATIONAL PARK SERVICE

Preservation of Historic Properties

Appropriation, 1977	$22,000,000
Proposed supplemental, Civilian pay raise	140,000
Total appropriation, 1977	22,140,000
Unobligated balance from prior years	1,721,692
Total available for obligation	23,861,692
Transfer of funding to Advisory Council on Historic Preservation	-509,692
Total available for obligation	23,352,000

Decreases:		
Grants-in-Aid	$17,719,699	
Advisory Council on Historic Preservation	19,332	
Historic Sites Survey	250,112	
Archeological Investigation and Salvage	210,359	
Transfer of funding to Advisory Council on Historic Preservation	54,308	
Subtotal		18,253,810
Increases:		
Maintenance of National Register	644,428	
Historic American Engineering Record	66,382	
Historic Architectural and Archeological Services	780,000	
Subtotal		1,490,810
Budget Estimate 1978		6,589,000

NATIONAL PARK SERVICE

Preservation of Historic Properties

Analysis by Activities

Activity/Subactivity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
1. Historic preservation and special studies:								125
(a) Grants-in-aid to States and to the National Trust for Historic Preservation								125
Appropriation	$20,000,000	$17,500,000	26	--	--	$-17,500,000	-26	
Unobligated balance br't fwd	3,248,045	219,699		--		-219,699		
Obligation program	-23,028,346	-17,719,699		--		+17,719,699		
Unobligated balace carried fwd.	219,699	--		--		--		
(b) Maintenance of the National Register								126
Appropriation	809,000	432,000	17	1,277,000	17	+845,000	--	
Unobligated balance br't fwd.	159,425	200,572		--		-200,572		
Obligation program	-767,853	-632,572		-1,277,000		-644,428		
Unobligated balance carried fwd.	200,572	--		--		--		

Activity/Subactivity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
(c) Historic Architectural and Archeological Services								127
Appropriation	$ --	$422,000	11	$1,202,000	11	$+780,000	--	
Unobligated balance br't fwd	--	--		--		--		
Obligation program	--	-422,000		-1,202,000		-780,000		
Unobligated balance carried fwd.	--	--		--		--		
(d) Historic Sites Survey								127
Appropriation	739,000	608,000	12	608,000	12	--	--	
Unobligated balance br't fwd	52,493	250,112		--		-250,112		
Obligation program	-541,381	-858,112		-608,000		+250,112		
Unobligated balance carried fwd.	250,112	--		--		--		
(e) Historic American Buildings Survey								128
Appropriation	462,000	483,000	13	483,000	13	--	--	
Unobligated balance br't fwd	--	--		--		--		
Obligation program	-462,000	-483,000		-483,000		--		
Unobligated balance carried fwd.	--	--		--		--		
(f) Historic American Engineering Record								128
Appropriation	$ 245,000	256,000	7	331,000	7	+75,000	--	
Unobligated balance br't fwd	--	8,618		--		-8,618		
Obligation program	-236,382	-264,618		-331,000		-66,382		
Unobligated balance carried fwd.	8,618	--		--		--		

Activity/Subactivity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
(g) Archeological Investigations and Salvage								129
Appropriation	$1,847,000	1,875,000	28	2,688,000	28	+813,000	--	
Unobligated balance br't fwd	577,446	1,023,359		--		-1,023,359		
Obligation program	-1,401,087	-2,898,359		-2,688,000		+210,359		
Unobligated balance carried fwd.	1,023,359	--		--		--		
2. Advisory Council on Historic Preservation Support								130
Appropriation	564,000	564,000		--		-564,000	--	
Unobligated balance br't fwd.	42,491	19,332		--		-19,332		
Obligation program	-587,159	-583,332		--		+583,332		
Unobligated balance carried fwd.	19,332	--		--		--		
Total Appropriation	$24,666,000	22,140,000	114	+6,589,000	88	-15,551,000	-26	
Total Unobligated br't forward	4,079,900	+1,721,692		--		-1,721,692		
Total Obligation program	-27,024,208	-23,861,692		-6,589,000		+17,272,692		
Total Unobligated carried forward	1,721,692	--		--		--		

Preservation of Historic Properties

Analysis by Activities

Activity	FY 1976 Amount Available	(Direct Appropriation) Fiscal Year 1977 Total Appropriation	Transfers Pay Cost Supplemental	Amount Available
1. Historic preservation and special studies	$13,936,000	$21,436,000	$140,000	$21,576,000
2. Advisory Council on Historic Preservation Support	564,000	564,000	-509,692	54,308
Unobligated balance from prior period	4,079,900	--	--	--
Total	18,579,900	22,000,000	-369,692	21,630,308

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	(Direct Appropriations) Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
1. Historic preservation and special studies	$13,936,000	$21,576,000	$6,589,000	$-14,987,000	125
2. Advisory Council on Historic Preservation Support	564,000	54,308	--	-54,308	130
Unobligated balance from prior period	4,079,900	--	--	--	
Total	18,579,900	21,630,308	6,589,000	-15,041,308	

1. Historic Preservation and Special Studies. Fiscal year 1977, $21,576,000; Fiscal year 1978, $6,589,000; decrease of $14,987,000. The decrease consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) $-17,500,000	-26	--	--	Grants-in-aid to the States, Territories and National Trust.
(B)+ 845,000	--	1,277,000	17	Maintenance of the National Register of Historic Places.
(C)+ 780,000	--	1,202,000	11	Historic Architectural and Archeological Services.
(D)		608,000	12	Historic Sites Survey.
(E)		483,000	13	Historic American Buildings Survey.
(F)+ 75,000	--	331,000	7	Historic American Engineering Record.
(G)+ 813,000	--	2,638,000	28	Archeological Investigations and Salvage.
-14,987,000	-26	6,589,000	88	

Program Synopsis

The Preservation of Historic Properties appropriation helps preserve historic properties outside the National Park System. Where such properties cannot be preserved significant aspects of the historic resources are studied, documented and recorded. A number of laws authorize the Secretary of Interior to carry out the program under this appropriation. The Secretary has delegated this responsibility to the National Park Service.

The Service carries out these responsibilities by maintenance of the National Register of Historic Places, which is an inventory of our Nation's historic and cultural heritage and providing technical assistance concerning architectural and archeological services to Federal agencies and State and local governments. It surveys important historic sites and buildings, and records outstanding buildings and engineering works for deposit in the Library of Congress. The Service also supports archeological investigations and salvage before Federal or federally related construction is undertaken.

A. Grants-in-Aid

Fiscal year 1977, $17,500,000; Fiscal year 1978, -0-; decrease of $17,500,000.

Major Program Changes

(1) Grants-in-Aid -$17,500,000; total $-0-.
-26 positions; total 0 positions.

Proposal. Decrease to reflect transfer of Grants-in-Aid to Historic Preservation Fund pursuant to Public Law 94-422.

Justification. Grants-in-Aid transferred to Historic Preservation Fund pursuant to Public Law 94-422.

Cost Factors. Decrease of $17,500,000 reflects transfer of Grants-in-Aid to Historic Preservation Fund.

Program Description. Program description and funding needs are included in Historic Preservation Fund justification.

B. Maintenance of the National Register

Fiscal year 1977, $432,000; Fiscal year 1978, $1,277,000; increase of $845,000.

Major Program Changes	
(1) Maintenance of the National Register	+845,000; total $1,277,000 Total 17 positions.

Proposal. This increase will be used to expedite determinations of eligibility of historic properties for inclusion in the National Register of Historic Places.

Justification. States are expanding their efforts to identify properties suitable for inclusion in the National Register. In fiscal 1976, 2,518 nominations were submitted. By fiscal 1978, it is estimated that 3,200 nominations will be submitted.

Also, the Emergency Home Purchase Assistance Act and Veterans Administration regulations concerning home purchase will increase the workload of the National Register staff. The act requires that any historic structure financed under the provisions of the act meet the criteria for inclusion in the National Register. Veterans Administration regulations give special consideration to loan application to properties listed on or eligible for inclusion in the National Register. Further, the Tax Reform Act of 1976 provides tax deductions for owners of depreciable historic structures who undertake rehabilitation of their properties. The act also eliminates previously available tax advantages to persons who destroy certified structures in order to construct new buildings. This increase will provide the funds and staff necessary to meet the additional workload.

Cost Factors. The number of properties estimated to be added to the National Register and requests for certification of significance arising from the Tax Reform Act are as follows:

	1976	Est. 1977	Est. 1978
Additions	1,697	2,000	3,500
Requests for certification	--	10,000	25,000

Program Description. As the basis of historic preservation planning efforts nationwide at the Federal, State and local levels, the National Register is the official inventory of our Nation's historic and cultural properties. Districts, sites, buildings, structures and objects of local, State and national significance are listed or determined eligible for listing to provide a planning tool for Federal, State and local government agencies, private organizations and citizens and to make historic properties eligible to receive Federal grants-in-aid for acquisition and preservation.

Expansion of the National Register of Historic Places, maintained under original authority of the Historic Sites Act of 1935, is authorized by the National Historic Preservation Act of 1966, and by direction of Executive Order 11593. At the end of Fiscal 1976, 12,347 properties were listed on the National Register.

A descriptive listing of these properties is published biennially by the National Park Service. The Tax Reform Act of 1976 provides incentive for private rehabilitation of certified historic structures thereby adding considerably to this program.

C. Historic Architectural and Archeological Services

Fiscal year 1977, $422,000; Fiscal year 1978, $1,202,000; increase of $780,000.

Major Program Change	
(1) Historic Architectural and Archeological Services	+$780,000; total $1,202,000 Total 11 positions.

Proposal. The increase will be used to handle the workload associated with the Tax Reform Act of 1976.

Justification. Tax incentives in the Tax Reform Act will increase the workload of the Architecture and Archeology staffs. It is expected that some 25,000 historic structures eligible for tax benefits will be rehabilitated annually. The workload will be increased in that there will be increased numbers of nominations that will require review and certification; technical advise, guidance and standards for persons who propose to undertake rehabilitation work and examination and certifications of completed rehabilitation projects.

Program Description. The National Park Service provides technical assistance in the fields of historic architecture and archeology to Federal agencies and State and local governments. The Service prepares by contract technical publications advising how to preserve and restore historical properties. For fiscal year 1978, publications will include the following topics; ruins stabilization, adobe preservation and historic paint research and preservation. The Service also advises other Federal agencies in identifying, evaluating and preserving historical properties. Training sessions are held for employees of other governmental agencies. Finally, the Service reviews applications for the transfer of Federal surplus property which has historical significance. The program is further expanded under the provisions of the Tax Reform Act of 1976.

D. Historic Sites Survey

Fiscal year 1977, $608,000; Fiscal year 1978, no change.

Major Program Change	
NONE	Total $608,000 Total 12 positions

Proposal. No increase is requested.

Justification. No increase is requested.

Cost Factors. No increase is requested.

Program Description. The National Park Service conducts surveys to identify and recognize prime historic properties. Those that meet criteria for national significance are designated by the Secretary of the Interior as national historic landmarks. Determination of national significance also satifies the initial criterion for properties later to be studied for possible inclusion in the National Park System.

A national historic landmark is a district, site, building, structure, or object that possess national significance in American history, architecture, archeology, or culture. Owners of designated landmarks are awarded a certificate and bronze plaque attesting to the landmark's importance in history. Landmarks are also enrolled directly on the National Register of Historic Places and thus afforded important legal protection and the potential for financial assistance.

E. Historic American Buildings Survey

Fiscal year 1977, $483,000; Fiscal year 1978, $483,000; no change.

Major Program Changes

(1) Historic American Buildings Survey	Total $483,000 Total 13 positions.

Proposal. No increase is requested.

Justification. No increase is requested.

Program Description. The National Park Service records significant historic structures with architectural drawings, photographs and a written description. The objectives of this Historic American Buildings Survey are: (1) to identify and document the design and construction of architecturally or historically important structures; (2) to encourage public interest and action in appreciation and preservation of the historic environment; and (3) to provide information and technical assistance to Federal agencies concerning standards and procedures for recording and documenting historic structures. New documentation in the form of measured drawings, photographs, and descriptive and historical data is added regularly to the Library of Congress, where it is permanently maintained for public use. An estimated $200,000 in money and service will be donated in fiscal year 1978.

F. Historic American Engineering Record

Fiscal year 1977, $256,000; Fiscal year 1978, $331,000; increase of $75,000.

Major Program Change

(1) Historic American Engineering Record	+$75,000; total $331,000 Total 7 positions.

Proposal. The increase will allow for rendering assistance in the certification of Historic Industrial Structures associated with the Tax Reform Act of 1976.

Justification. One of the provisions of the Tax Reform Act eliminates previously available tax advantages to persons who destroy certified historic structures in order to construct new buildings. Those who invested in property for speculative reasons can be counted upon to resist certification in the courts or other channels. The Service will be requested to render assistance to States or localities in certifying historic industrial structures.

Program Description. The National Park Service identifies and documents historically significant engineering and industrial accomplishments. This Historic American Engineering Record is prepared in cooperation with the American Society of Civil Engineers. Comprehensive surveys including engineering and architectural drawings, engineering analyses, photographs, maps, and reports are deposited in the Library of Congress. Interested citizens and organizations donate both money and services to this program. It is estimated that in fiscal year 1978, $65,000 will be donated. The Tax Reform Act of 1976 will significantly expand this program.

G. Archeological Investigations and Salvage

Fiscal year 1977, $1,875,000; Fiscal year 1978, $2,688,000; increase of $813,000.

Major Program Changes	
(1) Increased Investigations and Salvage Activities	+$813,000; total $2,688,000 Total 28 positions.

Proposal. This increase will provide for archeological investigation and salvage efforts prior to Federal or federally-licensed construction.

Justification. Whenever any Federal construction or federally-licensed activity threatens the loss of significant archeological data, investigations and salvage must by law be undertaken. This increase will allow the National Park Service to meet these responsibilities.

Cost Factors. The law allows one percent of the construction amount to be used for these investigations and salvage. Often this one percent is insufficient to cover the cost. Therefore, where the cost exceeds one percent, the Service tries to cover the difference. In a lecensed project where no Federal funds are involved the Service absorbs the entire cost of investigations and salvage.

Program Description. The Secretary of the Interior through the National Park Service is responsible for the recovery, protection, and preservation of data including relics and specimens prior to Federal construction or federally-licensed activity. To carry out this program the Service conducts, by contract, archeological investigations and salvage and coordinates Federal investigative and salvage activities.

2. Advisory Council on Historic Preservation Support: Fiscal year 1977, $54,000; Fiscal year 1978, $-0-; decrease of $54,000.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)-$54,000	-19	--	--	Advisory Council on Historic Preservation Support.

Program Synopsis

The objective of the Advisory Council on Historic Preservation is to coordinate the Federal Government's historic preservation efforts. The National Park Service provides administrative support to the staff of the Council.

A. Advisory Council on Historic Preservation Support

Fiscal year 1977, $54,000, Fiscal year 1978, $-0-; decrease of $54,000.

Major Program Changes

(1) Advisory Council on Historic Preservation Support	-$54,000; total $-0- -19 positions; total -0- positions

Proposal. Delete Advisory Council on Historic Preservation Support from fiscal 1978 Budget Justifications of the National Park Service.

Justification. Public Law 94-422, approved September 28, 1976, established the Advisory Council on Historic Preservation as an independent agency of the United States Government. The Council will submit fiscal 1978 Budget Justifications to support their needs.

PRESERVATION OF HISTORIC PROPERTIES

For expenses necessary in carrying out a program for the preservation of additional historic properties throughout the Nation, as authorized by law (16 U.S.C. 461-467, 470), and investigations, studies, and salvage of archeological values, [$22,000,000] *$6,589,000,* to remain available until expended [*:Provided,* That $17,500,000 of the amount made available under this head shall be available for obligation only upon the enactment into law of H.R. 12234, Ninety-Fourth Congress, or similar legislation] *(Department of the Interior and Related Agencies Appropriation Act, 1977.)*

Appropriation Language Changes

1. Activities Transferred Out
   Activity 2 - Advisory Council on Historic Preservation and Support

Advisory Council on Historic Preservation was given related agency status under the Secretary of the Interior by Public Law 94-422 on September 28, 1976. Separate budget estimates are being submitted in fiscal 1978 by the Advisory Council on Historic Preservation.

2. Subactivities Transferred Out
   Grants-in-Aid to States and the National Trust for Historic Preservation subactivity has been transferred to the Historic Preservation Fund pursuant to Public Law 94-422 which was approved on September 28, 1976.

A-11-32A

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
PRESERVATION OF HISTORIC PROPERTIES
Program and Financing (in thousands of dollars)

14-1040-0-1-303	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Program by activities:				
1. Historic preservation and special studies (total costs)	16,300	4,915	23,352	6,589
Change in selected resources (undelivered orders)	10,993	856	--	
10.00 Total obligations	27,293	5,771	23,352	6,589
Financing:				
21.00 Unobligated balance available, start of period	-4,080	-1,453	-1,722	--
24.00 Unobligated balance available, end of period	1,453	1,722	--	--
Budget authority	24,666	6,040	21,630	6,589
40.00 Appropriation	24,666	6,040	22,000	6,589
41.00 Transferred to other account	--	--	-510	--
43.00 Appropriation (adjusted)	--	--	21,490	
44.20 Supplemental now requested for civilian pay raises	--	--	140	
Relation of obligations to outlays:				
71.00 Obligations incurred, net	27,293	5,771	23,352	6,589
72.00 Obligated balance, start of period	24,058	34,060	34,820	31,548
74.00 Obligated balance, end of period	-34,060	-34,820	-31,548	-22,131
90.00 Outlays, excluding pay raise supplemental	17,291	5,011	26,490	16,000
91.20 Outlays from civilian pay raise supplemental	--	--	134	6

A-11-34A

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
PRESERVATION OF HISTORIC PROPERTIES

Object Classification (in thousands of dollars)

Indentification code 14-1040-0-1-303	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Personnel compensation:				
11.1 Permanent positions	2,046	572	1,873	1,812
11.3 Positions other than permanent	1,098	207	1,184	1,186
11.5 Other personnel compensation	21	11	28	28
Total personnel compensation	3,165	790	3,085	3,026
Personnel benefits:				
12.1 Civilian	273	69	264	257
21.0 Travel and transportation of persons	273	69	300	350
22.0 Transportation of things	5	5	6	10
23.2 Rent, communications, and utilities: Other rent, communications, and utilities	63	18	68	100
24.0 Printing and reproduction	168	18	160	185
25.0 Other services	1,242	268	1,854	2,511
26.0 Supplies and materials	85	17	90	112
31.0 Equipment	24	7	25	38
41.0 Grants, subsidies, and contributions	21,995	4,510	17,500	--
99.0 Total obligations	27,293	5,771	23,352	6,589

83-561 O - 77 - 40

A-11-34A

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
PRESERVATION OF HISTORIC PROPERTIES

Personnel Summary

Identification code 14-1040-0-1-303	1976 Actual	1977 Estimate	1978 Estimate
Total number of permanent positions	133	114	88
Full-time equivalent of other positions	75	73	61
Average paid employment	278	219	181
Average GS grade	9.04	8.86	8.82
Average GS salary	$16,555	$16,555	$16,555
Average salary of ungraded positions	$14,226	$14,226	$14,226

NATIONAL PARK SERVICE

Historic Preservation Fund

Appropriation, 1977 ..... $ --

SUMMARY OF INCREASES AND DECREASES, 1978

	Base for 1978	Increase 1978	
Grants-in-aid	$ --	$33,700,000	
Administrative expenses	--	1,300,000	
Total, net increase, 1978			$35,000,000
Budget Estimate, 1978			$35,000,000

Historic Preservation Fund

Analysis by Activities

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
	(Direct Appropriations)				
1. Grants-in-aid	$ --	$ --	$33,700,000	$+33,700,000	137
2. Administrative expenses	--	--	1,300,000	+1,300,000	139
Totals	--	--	35,000,000	+35,000,000	

1. Grants-in-Aid: Fiscal year 1977, $16,630,000; Fiscal year 1978, $33,700,000; increase of $17,070,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$17,070,000	--	$33,700,000	--	Grants-in-Aid

Program Synopsis

The Historic Preservation Fund was created by Public Law 94-422 on September 28, 1976, to encourage the preservation of historically significant properties by the States, Territories and the National Trust for Historic Preservation. Preservation objectives of this act are realized by way of federally funded grants to the above institutions who with matching funds perform preservation activities to insure the identification, preservation and protection of culturally significant historic properties. The law provides that the Historic Preservation Fund be funded by revenue generated by the Outer Continental Shelf Lands Act. Amounts authorized for appropriation by the Land and Water Conservation Fund (P.L. 94-422) by fiscal year are as follows:

FY 1977	FY 1978	FY 1979	FY 1980	FY 1981
		(Millions of dollars)		
24.4	100	100	150	150

For budget purposes, the Historic Preservation Fund is organized into two appropriation activities. One activity, Grants-in-Aid, provides for direct grants to States, Territories and the National Trust for Historic Preservation. The other activity, Administrative Expenses, funds the cost of Grants-in-Aid technical direction and administration.

Prior to fiscal 1978, Grants-in-Aid was funded under the Preservation of Historic Properties appropriation.

A. Grants-in-Aid

Fiscal year 1977, $16,630,000; Fiscal year 1978, $33,700,000; increase of $17,070,000.

Major Program Changes

(1) Grants-in-Aid +$17,070,00; total $33,700,000

Proposal. To preserve additional historic properties for the benefit of the public through increasing grants to States and to the National Trust for Historic Preservation. This proposal is submitted to carry out the intent of Public Law 94-422, signed by the President, September 28, 1976. The act established the National Historic Preservation Fund to carry out the purposes of the National Historic Preservation Act of 1966, which were to encourage the preservation of significant historic properties without acquisition by the Federal Government.

Justification. Grants-in-Aid are an effective method of preserving significant historic properties without bringing them into Federal ownership. Fifty percent matching Federal acquisition and development grants stimulate the investment in historic resource preservation by State and local governments and by the private sector. Historic properties not only have educational values and provide a sense of orientation and continuity to our people; they also constitute a

neglected resource of housing and building stock with tremendous potential for economically productive contemporary uses. Rehabilitated and reused historic properties become contributors to local, State, and Federal tax bases, rather than burdens upon Government. State survey and planning activities identify historic resources and provide information and cooperative services essential to the legally mandated environmental review responsibilities of all Federal agencies without commensurate increases in the Federal work force. Grants to the National Trust will provide for acquisition, development, repair, maintenance, and administration of historic properties and for educational and technical assistance activities that benefit preservationists throughout the United States. The proposed program level of $33.7 million will fund an estimated 1,100 projects. As a result of the increase, overall Federal compliance with historical environmental review requirements will be facilitated and pressure from many sources for Federal acquisition and administration of significant historic properties will be reduced.

Cost Factors. Up to fiscal 1977, $61,217,181 has been apportioned to the States. About $20 million of that amount has been devoted to Statewide comprehensive surveys and planning. With the balance of $41 million, 2,000 acquisition or development projects have been undertaken. The average amount of Federal aid for each project is about $20,000. In addition, $11,684,413 has been apportioned to the National Trust in support of its historic properties and preservation programs.

Program Description. Seventy percent matching grants to the States support comprehensive Statewide surveys and development of State Historic Preservation Plans required by law. These activities include identification of properties worthy of preservation and interaction with Federal, State, local, and private agencies in order to protect historic properties. Fifty percent matching grants to States support public and private efforts to acquire or develop properties listed in the National Register of Historic Places. Grants to the National Trust for Historic Preservation support technical assistance and educational programs; maintenance, administration, and development of Trust-owned historic properties; and acquisitions of historic properties.

2. Administrative Expenses: Fiscal year 1977, $870,000; Fiscal year 1978, $1,300,000; increase of $430,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$430,000	--	$1,300,000	26	Administrative Expenses

Program Synopsis

This activity provides for the technical direction and administrative support of the Grants-in-Aid program for historic preservation.

A. Administrative Expenses

Fiscal year 1977, $870,000; Fiscal year 1978, $1,300,000; increase of $430,000.

Major Program Changes

(1) Administrative Expenses +$430,000; total $1,300,000
Total 26 positions

Proposal. Provide technical and administrative services support funding to accomplish the historic preservation objectives of the Historic Preservation Fund created by Public Law 94-422 on September 28, 1976.

Justification. To effectively implement and administer Public Law 94-422, Historic Preservation Fund, technical and administrative services are required to increase the professional expertise in the States, thus allowing more of the responsibilities for the administration of the grants-in-aid program to be borne by the States. Therefore, the national objectives of historic preservation can be accomplished through a State-Federal partnership without a significant increase in staff.

Appropriate service oriented technical and administrative operations must be conducted to:

(1) Perform technical reviews of requests for Grants-in-Aid to ascertain that proposed historic preservation plans and projects meet established technical and legal standards.

(2) Provide advisory and technical guidance and assistance to States, Territories and the National Trust for Historic Preservation to aid their historic preservation planning, development and maintenance efforts.

(3) Conduct audits to insure that grants are being used for approved historic preservation projects and that technical historic preservation standards are being satisfied. The proposed biennial audit cycle will permit the early identification of grantee fiscal problems which can result from the administration of a substantially larger grant program.

(4) Perform the administrative operation required to plan, direct, administer and control the Historic Preservation Fund and its related Grants-in-Aid programs.

In fiscal 1978, Grants-in-Aid for historic preservation purposes is being increased by $17,070,000 to a total of $33,700,000, double the fiscal 1977 level of effort, which will increase program support costs.

Cost Factors.

(a) Salaries and related costs to administer expanded program, $74,000.

(b) Travel to provide technical historic preservation assistance to State staffs, $56,400.

(c) Printing and reproduction of technical historic preservation literature and reports, $32,100.

(d) Contractual services for architectural, archeological, audit and other professional services, $186,000.

(e) Historic preservation training for State personnel, $74,500.

(f) Supplies, material and equipment, $7,000.

Program Description. Public Law 94-422 established the Historic Preservation Fund to encourage the preservation of culturally significant historic properties. To accomplish this objective, a matching Grants-in-Aid fund was established to assist the States, Territories and the National Trust for Historic Preservation to develop and carry out historic preservation plans. Responsibility for direction, control and administration of the Grants-in-Aid for historic preservation purposes was delegated to the National Park Service. This activity, Administrative Expenses, provides for the technical direction, operational control and administrative services which are essentially required to effectively realize Grants-in-Aid objectives.

HISTORIC PRESERVATION FUND

For expenses necessary in carrying out the provisions of the Land and Water Conservation Fund Act of 1965, as amended (16 U.S.C. 460b 4-11), $35,000,000, to be derived from the National Historic Preservation Fund, established by section 108 of that Act, to remain available until expended.

Appropriation Language Changes

Programs and functions under the Historic Preservation Fund were funded in the Preservation of Historic Properties appropriation in fiscal 1977. Appropriation change is due to 1976 amendment of the Land and Water Conservation Fund Act of 1965. Amendment provided for the establishment of the Historic Preservation Fund.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HISTORIC PRESERVATION FUND
Amounts Available for Appropriation
(in thousands of dollars)

Identification code 14-5140-0-2-303	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Unappropriated balance, start of period ..	--	--	--	24,400
Receipts:				
Land and Water Conservation Fund Act: Outer Continental Shelf Lands Act	--	--	24,400	100,000
Total available for appropriation	--	--	24,400	124,400
Appropriation	--	--	--	-35,000
Unappropriated balance, end of period	--	--	24,400	89,400

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HISTORIC PRESERVATION FUND
Program and Financing (in thousands of dollars)

Identification code 14-5140-0-2-303	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Program by activities:				
1. Grants-in-aid	--	--	--	33,700
2. Administrative expenses	--	--	--	1,300
10.00 Total program costs (obligations)	--	--	--	35,000
Financing:				
40.00 Budget authority (appropriation)	--	--	--	35,000
Relation of obligation to outlays:				
71.00 Obligations incurred, net	--	--	--	35,000
72.00 Obligated balance, start of period	--	--	--	--
74.00 Obligated balance, end of period	--	--	--	-19,738
90.00 Outlays	--	--	--	15,262

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HISTORIC PRESERVATION FUND
Object Classification (in thousands of dollars)

Identification code 14-5140-0-2-303		1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
	Personnel compensation:				
11.1	Permanent positions	--	--	--	446
11.3	Positions other than permanent	--	--	--	120
	Total personnel compensation	--	--	--	566
	Personnel benefits:				
12.1	Civilian	--	--	--	57
21.0	Travel and transportation of persons	--	--	--	4
22.0	Transportation of things	--	--	--	12
23.2	Rent, communications, and utilities: Other rent, communications, and utilities	--	--	--	93
24.0	Printing and reproduction	--	--	--	8
25.0	Other services	--	--	--	500
26.0	Supplies and materials	--	--	--	40
31.0	Equipment	--	--	--	20
41.0	Grants, subsidies, and contributions	--	--	--	33,700
99.0	Total obligations	--	--	--	35,000

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HISTORIC PRESERVATION FUND

Personnel Summary

Identification code 14-5140-0-2-303	1976 Actual	1977 Estimate	1978 Estimate
Total number of permanent positions	--	--	26
Full-time equivalent of other positions	--	--	12
Average paid employment	--	--	38
Average GS grade	--	--	8.82
Average GS salary	--	--	$16,555
Average salary of ungraded positions	--	--	$14,226

NATIONAL PARK SERVICE

Planning, Development and Operation of Recreation Facilities

Appropriation, 1977	$14,000,000
Unobligated balance from prior years	3,593,391
Total available for obligation	17,593,391
Decreases:	
Recreation facilities	-3,593,391
Budget Estimate, 1978	14,000,000

NATIONAL PARK SERVICE

Planning, Development and Operation of Recreation Facilities

Analysis by Activity

Activity/Subactivity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
1. Recreation facilities								149
Appropriation	$14,000,000	$14,000,000	110	$14,000,000	110	--	--	
Unobligated balance br't fwd	3,676,833	3,593,391		--		-3,593,391		
Obligation program	-14,083,442	-17,593,391		-14,000,000		+3,593,391		
Unobligated balance carried forward	3,593,391	--		--		--		
Total Appropriation	14,000,000	14,000,000	110	14,000,000	110	--	--	
Total Unobligated br't forward	3,676,833	3,593,391		--		-3,593,391		
Total Obligation Program	-14,083,442	-17,593,391		-14,000,000		+3,593,391		
Total Unobligated carried forward	3,593,391	--		--		--		

Planning, Development and Operation of Recreation Facilities

Analysis by Activities

Activity	FY 1976 Amount Available	(Direct Appropriation) Fiscal Year 1977 Total Appropriation	Pay Cost Supplemental	Amount Available
1. Recreation facilities	$14,000,000	$14,000,000	$ --	$14,000,000
Unobligated balance from prior period	3,676,833	--	--	--
Total	17,676,833	14,000,000	--	14,000,000

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	(Direct Appropriations) Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
1. Recreation facilities	$14,000,000	$14,000,000	$14,000,000	$ --	149
Unobligated balance from prior period	3,676,833	--	--	--	
Total	17,676,833	14,000,000	14,000,000	--	

1. Planning, Development, and Operation of Recreation Facilities: Fiscal year 1977, $14,000,000; Fiscal year 1978, $14,000,000; no change.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) +$600,000	--	$5,400,000	88	Fee Collection - provides for increased activities and for a campsite reservation system.
(B)+1,200,000	--	4,400,000	8	Visitor Transporation Systems - provides for increased contracting, maintenance needs, supplies, two new operating systems and transportation studies.
(C)+3,500,000	--	3,500,000	14	Exhibits and Audiovisual Projects, Artifact Preservation, and Historic Furnishings Program.
(D)-5,300,000	--	700,000	--	Planning, Rehabilitation, Repairs and Construction - The decrease in this program provides increased funding for fee collections, visitor transportation and a new preservation program.
--	--	14,000,000	110	

Program Synopsis

The Planning, Development, and Operation of Recreation Facilities appropriation is funded by a special account into which are deposited all recreation fees collected in the National Park System. Park visitors pay fees for entrance into certain parks, for the use of some facilities, such as campgrounds, and for permits for special recreation activities. The major source of revenue from fees is the entrance fee, which is collected at 69 areas where access can be controlled. The second major source of revenue is the campground use fee, charged at 212 campgrounds in 81 areas. According to law, only those campgrounds with specific visitor facilities and services may have a use fee.

When fee revenue is returned to the National Park Service, it is used to pay for fee collection costs, for transporation systems used by visitors, and for such visitor service as audiovisual programs and exhibits. The balance of the fund is used for planning, rehabilitation, repair and reconstruction of park facilities. Every effort is made to see that fee revenue, paid by the visitors, is returned to them as a more enjoyable park visit.

A major change in the Fiscal 1978 budget is the establishment of an identifiable and stable fund source for the exhibits, audiovisual, artifact preservation and historic furnishings programs performed by the Harpers Ferry Center. The new fund source for these projects begins a program to review, rehabilitate, upgrade and replace worn out and outdated exhibits and audiovisual installations as well as to produce new exhibits and audiovisual projects for a number of recently authorized areas. It will also provide for the proper preservation of museum artifacts and historic furnishings throughout the System.

83-561 O - 77 - 41

A. Fee Collection

Fiscal year 1977, $4,800,000; Fiscal year 1978, $5,400,000; increase of $600,000.

Major Program Changes

(1) Increase fee collection	+$600,000; total $5,400,000 Total 88 positions

Proposal. This increase will provide for over 20 staff years of seasonal employment to collect fees at additional sites and to collect fees for longer periods of time. It will also restore seasonal fee collection personnel at areas where collection had been curtailed. Seasonal personnel will be provided to implement fee collection at five recently authorized areas.

The Service will also implement a campsite reservation system in approximately 16 parks, at a cost of $242,000. These costs cover 17.0 staff years of seasonal employment as well as communications and supplies. The system itself will be operated by a private firm under contract to the Service. That firm will receive payment for its services by collecting a service charge from campers making reservations.

Justification. Since fees are already collected in parks, the extension of collection hours and collection seasons to cover increased visitor use and longer seasons is equitable. Where new facilities have been built and where new areas are operational, the implementation of collection is also equitable. Revenues from these fees are returned to the Park System to provide for visitor services. Increases in collection are thus returned to benefit the park visitor.

The implementation of a campsite reservation system will have two main advantages: First, the public using the system will be assured of a place to camp upon arrival, which will avoid disappointment and unnecessary driving. Secondly, campground management will be more orderly through the reduction or elimination of waiting lines.

Cost Factors. Each park adjusts its entrance and user fee collection efforts to achieve the most revenue at the least cost consistent with equity and legislative guidelines. A detailed analysis of cost factors follows:

(a) 17.0 work-years seasonal employment to implement campground reservation system in 16 park areas, $163,000.

(b) Communications and fee collection equipment for campground reservation system, $79,000.

(c) 4.1 work-years seasonal employment to start new fee collection program in four park areas, $39,200.

(d) Equipment and support costs for new fee collection programs in four park areas, $19,100.

(e) 26.1 work-years of seasonal employment to reinstate curtailed fee collection operations and to extend fee collection operations to increase collections and visitor contacts, $262,700.

(f) Support costs (signs, fee collection equipment, supplies and materials) for reinstating curtailed fee collections and extension of fee collection programs, $37,000.

Program Description. For the most part, areas in the National Park System are supported by general tax revenues. National parks, monuments, historic sites and recreation areas are national treasures and national responsibilities--a part of the heritage of all citizens and available for use and enjoyment by all

citizens. But where special facilities are provided at Government expense and where control of access permits, a modest fee from those park visitors who benefit directly is equitable.

Fees are collected for entrance into certain parks and for the use of some facilities, mostly for campsites. Entrance fees are collected at 69 parks; user fees at 81. The intent of Congress in legislation relating to fees is that they be collected uniformly and equitably from the greatest practical number of visitors.

The revenue from fees collected is used to support the visitor transporation program, for such visitor services as audiovisual programs and exhibits, for rehabilitation, repair, and reconstruction of park facilities, and for the campsite reservation program.

The latter will provide a campsite reservation system for the use of campers in the 16 parks which experience intense competition for available campsites during the peak season. Within these parks approximately 35 to 40 campgrounds, containing about 7,000 campsites will be covered by the reservation system. Planned use of these funds is shown in the following list.

Park Area	Estimated Available 1977	Increase	Budget Estimate 1978
Acadia NP	$ 34,500	$	$ 34,500
Adams NHS	2,000		2,000
Appomattox Court House NMP	17,700		17,700
Arches NP		10,000	10,000
Assateague Island NS	12,900		12,900
Aztec Ruins NM	14,400		14,400
Badlands NM	6,200		6,200
Bandelier NM	22,200		22,200
Big Bend NP	22,200		22,200
Black Canyon of the Gunnison NM	19,000	1,100	20,100
Blue Ridge Parkway	113,800		113,800
Bryce Canyon NP	30,900	8,600	39,500
Buffalo NR	30,000		30,000
Canyonlands NP	39,200		39,200
Cape Cod NS	30,200		30,200
Cape Hatteras NS	113,600		113,600
Capital Reef NP	3,000	2,800	5,800
Capulin Mountain NM	10,000		10,000
Carl Sandburg Home NHS	2,900		2,900
Carlsbad Cavern NP	196,800		196,800
Casa Granda NM	27,000		27,000
Castillo de San Marcos NM	32,900		32,900
Chaco Canyon NM	4,400		4,400
Chickamauga & Chattanooga NMP	6,100		6,100
Chickasaw NRA	76,700		76,700
Chiracahua NM	11,000		11,000
Colonial NHP	16,900	13,800	30,700
Colorado NM	30,600	7,300	37,900
Coulee Dam NRA	8,800		8,800
Crater Lake NP	39,900	50,200	90,100
Craters of the Moon NM	4,200	1,100	5,300
Cumberland Gap NHP	13,400		13,400
Cumberland Island NS	22,200		22,200
Curecanti NRA	9,300		9,300
Death Valley NM	57,400		57,400
Devils Tower NM	13,400		13,400
Dinosaur NM	11,400		11,400

Edison NHS	3,300		3,300
El Morro NM	4,400		4,400
Everglades NP	39,500		39,500
Fort Davis NHS	10,000		10,000
Fort Pulaski NM	14,000		14,000
Fort Union NM	4,400		4,400
Gateway NRA		11,200	11,200
Gettysburg NMP	33,200		33,200
Glacier NP	163,000	48,700	211,700
Glen Canyon NRA	33,600		33,600
Golden Gate NRA	44,800		44,800
Grand Canyon NP	179,800		179,800
Grand Teton NP	159,300	22,100	181,400
Great Sand Dunes NM	15,900	1,100	17,000
Great Smoky Mountains NP	207,600	10,100	217,700
Gulf Island NS	82,800	9,900	92,700
Haleakala NP	9,200	7,800	17,000
Home of Franklin D. Roosevelt NHS	37,800		37,800
Hot Springs NP	16,700		16,700
Hubbell Trading Post NHS	3,900		3,900
Isle Royale NP	2,800		2,800
John Fitzgerald Kennedy NHS	2,700		2,700
John Muir NHS	5,300		5,300
Joshua Tree NM	40,600	1,800	42,400
Kennesaw Mountain NBP	--	--	--
Lake Mead NRA	78,700		78,700
Lassen Volcanic NP	52,700	2,200	54,900
Lava Beds NM	1,400		1,400
Lehman Caves NM	4,400		4,400
Longfellow NHS		3,300	3,300
Mammoth Cave NP	115,300		115,300
Mesa Verde NP	19,800		19,800
Minute Man NHS	2,000		2,000
Montezuma Castle NM	28,900		28,900
Morristown NHP	4,300		4,300
Mount McKinley NP	13,000		13,000
Mount Rainier NP	67,000	5,700	72,700
North Cascades NP	5,200		5,200
Olympic NP	23,900	8,900	32,800
Organ Pipe Cactus NM	14,600		14,600
Ozark NSR	69,100		69,100
Padre Island NS	10,000		10,000
Pea Ridge NMP	14,800		14,800
Petrified Forest NP	101,400		101,400
Pinnacles NM	24,200		24,200
Rocky Mountain NP	191,700		191,700
Sagamore Hill NHS	10,100		10,100
Saguaro NM	13,600		13,600
Saint-Gaudens NHS	2,000		2,000
Salem Maritime NHS	2,200		2,200
San Juan NHS	2,200		2,200
Scotts Bluff NM	10,600		10,600
Sequoia NP	273,800		273,800
Shenandoah NP	341,400		341,400
Sleeping Bear Dunes NL		33,700	33,700
Statue of Liberty NM	25,200	9,000	34,200
Theodore Roosevelt Birthplace NHS	11,800		11,800
Theodore Roosevelt NMem. Park	32,700		32,700
Timpanogos Cave NM	4,300		4,300
Tonto NM	9,700		9,700
Tumacacori NM	11,300		11,300
Tuzigoot NM	16,800		16,800

Walnut Canyon NM	20,300		20,300
Whiskeytown NRA	24,200		24,200
White Sands NM	45,600		45,600
Wind Cave NP	19,100		19,100
Yellowstone NP	380,100	63,600	443,700
Yosemite NP	388,400		388,400
Zion NP	45,800	24,000	69,800
NCP Mall & Monuments	44,700		44,700
Subtotal	4,800,000	358,000	5,158,000
Campground Reservation System		242,000	242,000
TOTAL	$4,800,000	$600,000	$5,400,000

B. Visitor Transportation Systems

Fiscal year 1977, $3,200,000; Fiscal year 1978, $4,400,000; increase of $1,200,000.

Major Program Changes

(1) Visitor Transportation Systems Operations and Studies	+$1,200,000; total $4,400,000 Total 8 positions

Proposal. This increase will provide for the implementation of four new transportation systems:

Kennesaw Mountain NBP	$42,000
Colonial NHP	60,000
Gateway NRA (Sandy Hook)	30,000
Sunset Crater NM	3,000
Total	135,000

It will also provide for increased contract costs, maintenance, and support costs for existing transportation systems at a cost of $843,300. The remaining $221,700 will be used for transportation studies for the following areas:

Padre Island NS	$75,200
Chickasaw NRA	6,500
Glen Canyon NRA	75,000
Glacier NP	65,000

Justification. Four new transportation systems will be implemented with this increase.

1. At Kennesaw Mountain National Battlefield Park in Georgia, weekend traffic was so congested that 3,000 cars per day were making the round trip to the top of the mountain on a winding two-lane road. Cars were improperly parked along the roadside; vandalism, drug violations, reckless driving, littering and disorderly conduct violations were weekly occurrences. As a result 12 emergency law enforcement personnel with equipment had to be brought in each weekend at a cost of $7,000 per weekend. In one instance, 16 acres of forestland were burned because fire trucks could not get through traffic. By restricting traffic, and chartering buses only for weekends, during the 9-month visitor use season, the Service will be able to reduce congestion, greatly reduce law enforcement problems, reduce harm to the resources, and provide for an enjoyable park visit, with a savings in overall energy consumption.

2. At Colonial National Historical Park, three buses will be operated during the summer season at Yorktown National Battlefield Site. A taped talk will be

used on the buses to interpret the battlefield. State buses now bring visitors from the State Center to the Yorktown Visitor Center. These visitors cannot tour the battlefield without going back for their car at the State Center. Negotiations with the State resulted in planning for the proposed system.

3. At Gateway National Recreation Area, park visitors now have access to a beach and large recreation facilities beyond the Sandy Hook area. The unmarked access route is through historic Fort Hancock with abandoned structures, gun emplacements and other facilities now not safe for public use. The chartered shuttle system proposed for this area would provide visitor transportation from mid-June until after Labor Day, when visitation is highest. This system will control visitor use, protect both the visitor and resources in the fort area, and decrease traffic congestion.

4. At Sunset Crater National Monument, interpreters using GSA vehicles guide visitors through the area. The road is an unpaved fire road, unsuitable for the use of private vehicles. This will be the most effective way of allowing use of the area and at the same time protecting both the visitor and the resource.

Transportation systems are now operating in the following areas:

Park	Amount
Carl Sandburg Home, NHS	$35,000
Dinosaur NM	74,000
Everglades NP	483,000
Fort Matanzas NM	20,000
Grand Canyon NP	933,300
Guadalupe Mountains NP	10,000
Lyndon B. Johnson Ranch NHS	378,000
Mesa Verde NP	296,000
Mount McKinley NP	457,000
North Cascades NP	26,000
Point Reyes NS	11,000
Yosemite NP	1,320,000
	4,043,300

Transportation studies are necessary to determine the cost-effectiveness and feasibility of alternative transportation systems in existing areas of the National Park System, and to determine energy savings, resulting resource protection, reduction in congestion and law enforcement problems and visitor demand.

Cost Factors. Before transportation systems are implemented, transportation studies as described above are completed.

The following table shows the average cost per visitor in 1975 for the operation of the existing transportation systems.

Park	Visitor Served	Average Cost Per Visitor
Carl Sandburg Home NHS	25,000	$1.20
Dinosaur NM	115,000	.16
Everglades NP	74,200	2.91
Fort Matanzas NM	34,300	.48
Grand Canyon NP	1,788,000	.47
Guadalupe Mountains NP	1,000	3.97
Lyndon B. Johnson Ranch NHS ..... Buses	202,000	.61
..... Wagons	42,000	1.26

Park	Visitor Served	Average Cost Per Visitor
Mesa Verde NP	40,500	$2.99
Mount McKinley NP	42,280	8.08
North Cascades NP	7,700	1.69
Point Reyes NS	8,400	1.76
Yosemite NP - Yosemite Valley	2,750,000	.22
- Mariposa Grove	620,000	.25

Where the park name is underlined, a contractor supplies the buses and the driver. This is often the least costly way to acquire the buses, since visitor demand is seasonal. Contractors use the buses for other jobs during the off-season. The Service carefully supervises these contractors to assure that the buses are safe and the drivers qualified, and proper visitor services are given.

A detailed financial analysis follows:

(a) Contract costs for transportation services, four new transportation systems and existing systems, $606,500.

(b) 2.1 work-years seasonal employment and support costs for four new transportation systems and existing system expansion, $33,000.

(c) Transportation studies for four areas, $221,700.

(d) Expanded services and maintaining current levels of visitor transportation services, $236,800.

(e) Reinstate curtailed transportation system services, $102,000.

Program Description. During the late 1960's, visitation to areas of the National Park System increased to the point where certain parks were in danger of being overused. Roads were congested; parking lots filled early in the day. Pollution from automobile exhausts had become worrisome to park management. Wildlife began to leave their natural habitat at Mount McKinley National Park to avoid the roads and the cars. Faced with this situation, the Service had three alternatives:

1. To restrict public use so that the capacity of existing roads and parking lots was not exceeded, and so that park resources would not be adversely affected;

2. To build new roads and parking lots so that public demand was met; or

3. To provide a new, more effective method of transporting visitors.

Buses and shuttle vehicles were selected as a more efficient way to transport visitors. Buses expand the capacity of a road system manyfold, while reducing exhaust pollution. They eliminate the need for costly, resource-damaging, new roads and expanded parking lots. They save energy when compared to private cars doing the same jobs, as shown in the following table:

	Gallons of Gasoline				
	FY 74	FY 75	FY 76	FY 77 Est.	FY 78 Est.
3.5 passenger per Auto at 12 MPG	928,600	1,119,000	1,178,800	1,238,000	1,285,000
35 passenger per Bus at 5 MPG	228,600	268,600	282,300	297,000	308,500
Estimated number of gallons saved	700,000	850,400	896,500	941,000	976,500

In most cases, buses use the existing road system; therefore, expensive, high-technology systems, such as monorails are not needed. These buses allow the Service to execute its congressionally established policy to protect the resources in parks for future generations while permitting public use.

C. Harpers Ferry Center Exhibits and Audiovisual Projects and Artifact Preservation Program

Fiscal year 1977, -$0-; Fiscal year 1978, $3,500,000; increase of $3,500,000.

Major Program Changes	
(1) Rehabilitation of exhibits and audiovisual installation, and artifacts preservation and historic furnishings program	+$3,500,000; total $3,500,000 Total 14 positions

Proposal. This increase will provide for the first increment of a program to review, rehabilitate, and upgrade the Service's exhibits and audiovisual installations. Plans are ready for 35 park areas where visitor center exhibits, wayside exhibits and audiovisual installations are in most need of repair. The program initially will allow for the review and planning of these interpretive devices for 54 additional park areas. Approximately 50 percent of these production projects will be accomplished by contracts with private firms.

The program will also provide for the preservation and protection of over 3 million museum specimens and artifacts as well as planning for and preservation and acquisition of historic furnishings throughout the National Park System.

Workload Factors

1. Visitor Center Exhibits. There are 110 such exhibits, which are 15 years old or older and which have become worn and obsolete.

2. Wayside exhibits. There are 120 outdoor wayside exhibits which are over 10 years old and in poor condition.

3. Audiovisual installations. There are 53 films, 66 sound/slide shows and 625 audio-station messages which are used constantly and need repair or replacement.

4. Artifacts. Approximately 4,250,000 artifacts and museum specimens are not stored properly and thus are deteriorating. Storage cabinets with temperature and humidity controls must be purchased. Security systems are needed in 250 visitor centers and historic buildings.

5. Historic furnishings. The Service administers 150 historic buildings that are either partially or completely furnished. To assure preservation and historical accuracy, 50 of these must be reviewed and brought up to standard as soon as possible.

Justification. Exhibits and audiovisual presentations are an inexpensive means of providing visitor information and interpretation. They are used to inform the visitor about the parks or sites and their historical values, proper use, potential safety hazards, and available facilities.

In recent years, the Service has had to concentrate on preparing exhibits and audiovisual presentations for Bicentennial areas and for many new areas added to the System. As a result, interpretive presentations in older areas have either deteriorated or become outdated. Continued deterioration results in increased maintenance costs and unsatisfactory performance.

By establishing a stable funding base, the Service will be able to plan for and schedule projects one year and produce them the next. By contracting half of these projects, the Service reduces staffing needs.

Museum collections under the care and protection of the Service number over 5 million specimens. While valued at over $200 million, they are actually an irreplaceable part of the Nation's cultural heritage. About 4,250,000 of these artifacts are not now properly stored. Each year numerous artifacts are lost, destroyed, or suffer severe deterioration because of lack of proper storage facilities, or lack of proper preservation treatment.

Historic furnishings, too, must be properly cared for. Many of those furnishings now in historic structures fall short of the Service's standards, either because they have been furnished without proper, thorough research, or because there have been little or no resources to acquire the historically accurate furnishings. About 50 of these furnished buildings need to be brought up to standard promptly.

Cost Factors. On a per visitor basis, interpretive devices, such as exhibits, and audiovisual installations are a bargain. A film might last 10 years and be seen by 6 million visitors; a wayside exhibit, read by twice that number. Museum specimens can be saved by placing them in special storage cabinets which will last years. These cabinets cost from $150 to $600 depending upon the type of cabinet needed for particular types of artifacts.

Program Description. The National Park Service Harpers Ferry Center is responsible for the planning, design and production of the exhibits and audiovisual projects of the Service and for preservation of museum artifacts and historic furnishings.

Many parks in the System have worn, outdated and substandard exhibits and audiovisual programs in need of repair, replacement or upgrading. The Harpers Ferry Center has, in recent years, concentrated on new facilities while older interpretive presentations have sadly deteriorated. In the past when facilities were upgraded, exhibits or audiovisual presentations were repaired or upgraded on a piecemeal basis. One element would be rehabilitated; the other allowed to remain in poor condition. It is more cost effective to upgrade worn, outdated or substandard exhibits and audiovisual programs in a facility at the same time.

Museum collections under the care and protection of the Service number over 5 million specimens at an estimated value of $200 million. Each year numerous artifacts are lost, destroyed or suffer severe deterioration for lack of proper storage facilities, preservation treatment and adequate security. In order to maintain museum collections at an acceptable level a greatly expanded preservation program is required.

The following items are funded under these programs: field studies, exhibit plans, audiovisual plans, exhibit production, audiovisual production, artifact preservation, historic furnishing plans, furnishing acquisition, and artifact storage.

D. Planning, Rehabilitation, Repair and Construction of Recreation Facilities

Fiscal year 1977, $6,000,000; Fiscal year 1978, $700,000; decrease of $5,300,000.

Major Program Changes		
(1)	Planning, Rehabilitation, Repair and Construction of Recreation Facilities	-$5,300,000; total $700,000 No positions

Proposal. This program will be reduced substantially from the fiscal 1977 level. The program will provide a source of funding for smaller projects relating to the provision of recreation facilities.

Justification. Because of the small size of the fund, it will be used for emergency needs to prevent the interruption of visitor services instead of for large scale projects.

Program Description. This program will provide for planning, rehabilitation, or repair of urgent projects such as: safety hazard correction, emergency repairs, structure stabilization, maintenance of visitor facilities.

PLANNING, DEVELOPMENT AND OPERATION OF RECREATION FACILITIES

For construction, operation, and maintenance of outdoor recreation facilities, without regard to the Act of August 24, 1912, as amended (16 U.S.C. 451); including collection of special recreation use fees, to remain available until expended, $14,000,000 to be derived from the special receipt accounts established by section 1(b) of the Act of July 15, 1968 (82 Stat. 354), and section 4(e) of the Act of July 11, 1972 (86 Stat. 461): *Provided*, That not more than 40 per centum of the amount credited pursuant to section 4(e) of the Act of July 11, 1972, shall be available for the enhancement of the fee collection system established by section 4 of such Act, including the promotion and enforcement thereof. *(Act of July 15, 1968 (82 Stat. 354); Act of July 11, 1972 (86 Stat. 461); Act of May 24, 1974 (88 Stat. 174); Department of the Interior and Related Agencies Appropriation Act, 1977.)*

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
PLANNING, DEVELOPMENT AND OPERATION OF RECREATION FACILITIES
Amounts Available for Appropriation (in thousands of dollars)

Identification code 14-5006-0-2-303	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Unappropriated balance, start of period	3,524	4,763	9,250	9,250
Receipts:				
Land and Water Conservation Fund Act:				
Golden Eagle Passport	1,557	767	1,600	1,600
Special recreation use fees	13,682	8,720	12,400	12,400
Total available for appropriation	18,763	14,250	23,250	23,250
Appropriation	-14,000	-5,000	-14,000	-14,000
Unappropriated balance, end of period	4,763	9,250	9,250	9,250

A-11-32A

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	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Program by activities:				
Recreation facilities (total costs) ...	15,273	4,172	17,593	14,000
Change in selected resources (undelivered orders)	-3,542	3,181	--	--
10.00 Total obligations	11,731	7,352	17,593	14,000
Financing:				
21.00 Unobligated balance, start of period	-3,677	-5,945	-3,593	--
24.00 Unobligated balance, end of period	5,945	3,593	--	--
40.00 Budget authority (appropriation) (indefinite, special fund)	14,000	5,000	14,000	14,000
Relation of obligations to outlays:				
71.00 Obligations incurred, net	11,731	7,352	17,593	14,000
72.00 Obligated balance, start of period	6,620	2,193	5,658	8,251
74.00 Obligated balance, end of period	-2,193	-5,658	-8,251	-4,751
90.00 Outlays	16,158	3,888	15,000	17,500

A-11-34A

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
PLANNING, DEVELOPMENT, AND OPERATION OF RECREATION FACILITIES
Object Classification (in thousands of dollars)

Identification code 14-5006-0-2-303		1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
	Personnel compensation:				
11.1	Permanent positions	1,780	798	1,900	1,995
11.3	Positions other than permanent	3,185	1,296	3,350	4,016
11.5	Other personnel compensation	377	150	400	420
	Total personnel compensation	5,342	2,244	5,650	6,431
	Personnel benefits:				
12.1	Civilian	498	176	600	682
21.0	Travel and transportation of persons	195	67	230	220
22.0	Transportation of things	82	37	100	115
23.2	Rent, communications and utilities: Other rent, communications and utilities	177	70	250	220
24.0	Printing and reproduction	65	43	110	80
25.0	Other services	2,671	2,108	3,943	4,382
26.0	Supplies and materials	619	289	850	777
31.0	Equipment	444	290	550	628
32.0	Lands and structures	1,637	2,028	5,310	465
42.0	Insurance claims and indemnities	1	--	--	--
99.0	Total obligations	11,731	7,352	17,593	14,000

A-11-34A

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
PLANNING, DEVELOPMENT AND OPERATION OF RECREATION FACILITIES

Personnel Summary

Identification code 14-5006-0-2-303	1976 Actual	1977 Estimate	1978 Estimate
Total number of permanent positions ...	110	110	110
Full-time equivalent of other positions	320	312	312
Average paid employment	571	471	471
Average GS grade	9.04	8.86	8.82
Average GS salary	$16,555	$16,555	$16,555
Average salary of ungraded positions ..	$14,226	$14,226	$14,226

NATIONAL PARK SERVICE

John F. Kennedy Center for the Performing Arts

Appropriation, 1976	$2,575,000	
Supplemental, Civilian Pay Raise	8,000	
Supplemental, Wage-Board Pay Raise	62,000	
Total appropriation, 1976		$2,645,000
Appropriation, 1977	$3,072,000	
Proposed Supplemental, Classified Pay Raise	21,000	
Proposed Supplemental, Wage-Board Pay Raise	7,000	
Total available, 1977		$3,100,000

SUMMARY OF INCREASES AND DECREASES, 1978

	Base for 1978	Increases 1978	
Annualization of Classified Pay Increase	$ --	$ 14,000	
Annualization of Wage-Board Pay Increase	--	41,000	
Operation of the John F. Kennedy Center	--	628,000	
Total, net increase, 1978			683,000
Budget Estimate, 1978			3,783,000

83-561 O - 77 - 42

JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS

Analysis by Activities

Activity	FY 1976 Amount Available	(Direct Appropriation) Fiscal Year 1977 Total Appropriation	Pay Cost Supplemental	Amount Available
1. John F. Kennedy Center for the Performing Arts	$2,645,000	$3,072,000	$28,000	$3,100,000
Total	2,645,000	3,072,000	28,000	3,100,000

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
1. John F. Kennedy Center for the Performing Arts	$2,645,000	$3,100,000	$3,783,000	$+683,000	166
Total	2,645,000	3,100,000	3,783,000	+683,000	

1. John F. Kennedy Center for the Performing Arts: Fiscal year 1977, $3,100,000; Fiscal year 1978, $3,783,000; increase of $683,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$683,000	--	$3,783,000	80	Non-performing arts operation

Program Synopsis

This program provides for the accomplishment of non-performing arts operations at the John F. Kennedy Center for the Performing Arts. These operations include maintenance, security, information, interpretation, janitorial, utility services and all other non-performing arts functions at the John F. Kennedy Center.

A. John F. Kennedy Center

Fiscal year 1977, $3,100,000; Fiscal year 1978, $3,783,000; increase of $683,000.

Major Program Changes

(1) John F. Kennedy Center - Non-performing Arts	+$683,000; total $3,783,000 Total 80 positions.

Proposal. Provide additional funding to support increased cost of utilities, contractual services, supplies and materials at the John F. Kennedy Center and provide for annualization of classified and wage board pay increases.

Justification. The John F. Kennedy Center for the Performing Arts is an all electric building, using this energy for light, heat, air-conditioning and all other energy-consuming operations such as maintenance and fountain operations machinery. Consumption and costs associated with electrical energy use are increasing. A Studio Theater addition will be made to the center prior to Fiscal 1978 as a result of a $3 million gift from the Japanese Government. This addition will add to energy consumption, maintenance, housekeeping and materials and operating costs. Also, elevator operation and maintenance costs are scheduled to rise.

Cost Factors.

a. Increased costs of electric service - $205,000

b. Increased cost for maintenance contracts, supplies and materials - $339,000

c. Cost for heating and maintenance of new studio - $84,000

d. Annualization of classified and wage board pay increases - $55,000.

Program Description. Beginning in Fiscal 1973, under the authority of Public Law 93-313, approved June 16, 1972, the National Park Service undertook a program to provide maintenance, security, information, interpretation, janitorial and all other services necessary for the non-performing arts functions of the

John F. Kennedy Center for the Performing Arts, valued in excess of $100 million. The structure contains 1.5 million square feet of usable space. The National Park Service is committed to providing quality interpretive and maintenance services worthy of a national memorial to the former President.

The Kennedy Center is one of the world's largest all electric buildings. After the energy crisis developed, the Service, with the assistance of the Kennedy Center, immediately undertook drastic measures to reduce the consumption of energy. In Fiscal 1974, the number of kilowatt hours consumed was reduced 29 percent. In Fiscal 1975, it was reduced by an additional 11 percent more, but no further significant reductions can be expected.

During 1976 (January - August), an estimated 15,100 persons visited the John F. Kennedy Center daily.

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, [$3,072,000] *$3,783,000. (Act of June 16, 1972 (86 Stat. 216); Department of the Interior and Related Agencies Appropriation Act, 1977.)*

A-11-32A

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	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Program by activities:				
John F. Kennedy Center for the Performing Arts (program costs, funded) ...	2,546	823	3,100	3,783
Change in selected resources (undelivered orders)	55	-46	--	--
10.00 Total obligations	2,601	777	3,100	3,783
Financing:				
21.00 Unobligated balance available, start of period	--	-44	--	--
24.00 Unobligated balance available, end of period	44	--	--	--
25.00 Unobligated balance lapsing	--	8	--	--
Budget authority	2,645	741	3,100	3,783
Budget authority:				
40.00 Appropriation	2,645	741	3,072	3,783
44.10 Supplemental now requested for wageboard pay raises	--	--	7	--
44.20 Supplemental now requested for civilian pay raises	--	--	21	--

A-11-32A

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		1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Relation of obligations to outlays:					
71.00	Obligation incurred, net	2,601	777	3,100	3,783
72.00	Obligated balance, start of period	393	422	337	418
74.00	Obligated balance, end of period	-422	-337	-418	-520
77.00	Adjustments in expired accounts	-38	13		
90.00	Outlays, excluding pay raise supplemental	2,534	875	2,992	3,680
91.10	Outlays from wageboard pay raise supplemental	--		7	--
91.20	Outlays from civilian pay raise supplemental	--		20	1

A-11-34A

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS
Object Classification (in thousands of dollars)

Identification code 14-1038-0-1-303	1976 Actual	TQ Actual	1977 Estimate	1978 Estimate
Personnel compensation:				
11.1 Permanent positions	851	389	911	1,001
11.3 Positions other than permanent	130	46	144	157
11.5 Other personnel compensation	41	19	44	46
Total personnel compensation	1,022	454	1,099	1,204
Personnel benefits:				
12.1 Civilian	122	32	130	140
21.0 Travel and transportation of persons	2	1	2	3
22.0 Transportation of things	--	--	2	3
23.2 Rent, communications, and utilities: Other rent, communications, and utilities	649	94	770	992
24.0 Printing and reproduction	4	1	4	4
25.0 Other services	602	154	883	983
26.0 Supplies and materials	139	41	145	384
31.0 Equipment	61	--	65	70
99.0 Total obligations	2,601	777	3,100	3,783

A-11-34A

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS

Personnel Summary

Identification Code 14-1038-0-1-303	1976 Actual	1977 Estimate	1978 Estimate
Total number of permanent positions	81	81	81
Full-time equivalent of other positions	16	14	14
Average paid employment	118	109	109
Average GS grade.....	9.04	8.86	8.82
Average GS salary.....	$16,555	$16,555	$16,555
Average salary of ungraded positions....	$14,226	$14,226	$14,226

ADMINISTRATIVE PROVISIONS

Appropriations for the National Park Service shall be available for the purchase of not to exceed one hundred [eighty-one] *ninety* passenger motor vehicles, of which one hundred [fifty-seven] *six* shall be for replacement only, including not to exceed [one hundred twelve] *ninety-five* for police-type use; *purchase of one aircraft for replacement only;* 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: *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 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. *(5 U.S.C. 78(a)(b); Department of the Interior and Related Agencies Appropriation Act, 1977.)*

Justification

One hundred and six passenger motor vehicles and one aircraft are required to replace existing vehicles and aircraft which have reached or exceed operational use standards. Continued use of these vehicles and aircraft will create safety hazards for users and the public.

Eighty-four passenger carrying vehicles are required to support operations in new areas and program increases in existing areas of the National Park System.

Vehicles to be replaced have been fully depreciated and can be replaced without additional funding.

DEPARTMENT OF THE INTERIOR A-11-35
NATIONAL PARK SERVICE
CONSOLIDATED SCHEDULE OF PERMANENT POSITIONS PAID
FROM FUNDS AVAILABLE TO THE NATIONAL PARK SERVICE

DETAIL OF PERMANENT POSITIONS

	1976 actual	1977 estimate	1978 estimate
Executive level V (Subtotal)	1	1	1
GS-17	...	2	2
GS-16	11	13	13
GS-15	108	105	109
GS-14	226	222	219
GS-13	540	558	561
GS-12	761	772	784
GS-11	717	763	829
GS-10	5	5	5
GS-9	846	900	969
GS-8	50	50	50
GS-7	578	649	707
GS-6	455	488	520
GS-5	719	843	951
GS-4	333	431	510
GS-3	53	114	151
GS-2	10	14	14
GS-1	1	...	...
Subtotal	5,413	5,929	6,394
Ungraded	2,801	3,090	3,449
Total permanent positions	8,215	9,020	9,844
Unfilled positions, end of year	-657	-776	-787
Total permanent employment, end of year	7,558	8,244	9,057

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

GEOLOGICAL SURVEY

U.S. GEOLOGICAL SURVEY
Highlights of FY 1978 Budget Justification

The budget request for Surveys, Investigations, and Research in fiscal year 1978 is $353,622,000, an increase of $38,167,000 over the fiscal year 1977 amount of $315,455,000. The increase consists of $38,788,000 in net program increases; $1,779,000 for increased pay, space and employee compensation payments, and a decrease of $2,400,000 representing funds made available in fiscal year 1977 for the one time replacement and repair of items damaged or destroyed in a fire at the Survey's Denver, Colorado, facility.

The major increases contained in the FY 1978 budget request are for quadrangle mapping and revision, $6,500,000; small scale and special mapping, $3,000,000; earthquake hazards reduction, $16,300,000; mineral lands assessment, $3,300,000; coal resource investigations, $2,000,000; water data collection and analysis, $1,400,000; Federal-State Cooperative Program, $2,100,000; regulation of OCS oil and gas operations, $2,000,000; seismic risk and sea bottom studies, $1,400,000; and $1,784,000 for operation and maintenance of the National Headquarters Complex at Reston, Virginia. A redirection of $1,500,000 is proposed for Regional Mapping and analysis to provide geologic, geophysical, and geochemical surveys in support of mineral lands assessments.

Highlights of specific programs included in the FY 1978 budget request are as follows:

1. Alaska Pipeline Related Investigations - A total of $333,000. The FY 1978 program continues the geologic, hydrologic and seismic studies required for monitoring adherence to stipulations for safe procedures during the construction and initial operational phases of the Pipeline.

2. Topographic Surveys and Mapping - A total of $59,802,000, an increase of $9,420,000, to support the Survey's National mapping program objective to furnish fundamental cartographic data to meet new and expanding mapping requirements which will provide a framework on which to build an integrated system of U.S. Federal land mapping. These maps are basic tools necessary for the identification and development of energy resources; land-use planning; environmental impact studies; economic and industrial studies; location and development of highways; selection of power and communication sites and routes, dam, and reservoir sites; flood plain studies and flood and erosion control; and military and civilian defense.

The National Cartographic Information Center will continue to provide the cartographic data user information about availability of maps, aerial imagery, and survey data.

Changes during FY 1978 include: $+1,500,000 for new quadrangle mapping; $+2,000,000 for topographic quadrangle map revision; $+3,000,000 for modernization of mapping technology; $+3,000,000 for accelerated production of multipurpose intermediate-scale maps; $+170,000 for pay and space costs; and a reduction of $250,000 representing funds made available in FY 1977 for the one time replacement and repair of items damaged or destroyed in a fire at the Survey's Denver, Colorado, facility.

3. Geologic and Mineral Resource Surveys and Mapping - A total of $119,390,000, an increase of $19,266,000. The continuing national program of geologic research and investigations produces: (a) New or improved methods, techniques, and instruments for mineral or energy exploration on land and on the submerged continental margins; (b) 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 Nation's continental shelves and slopes; (c) information on the chemistry and physics of the Earth and the geologic processes by which it was formed and is being continually modified; (d) geologic data that are directly applicable to urban development and to land

utilization including energy facility siting and other land construction problems; and (e) a major program aimed at the mitigation of geologic hazards such as earthquakes, volcanic eruptions, landslides, and land subsidence.

Changes during FY 1978 include: $+16,300,000 for earthquake hazards reduction; $+300,000 for volcanic hazards; $+500,000 for of reactor hazards; a reduction of $1,500,000 for basic geologic, geophysical, and geochemical studies; $+1,300,000 for mineral assessment of wilderness lands; $+2,000,000 for mineral assessment of the conterminous states; $+2,000,000 for Federal coal leasing exploration; $+441,000 for pay and space costs; and a reduction of $2,075,000 representing funds made available in FY 1977 for the one time replacement and repair of items damaged or destroyed in a fire at the Survey's Denver, Colorado facility.

4. Water Resources Investigations - A total of $68,579,000, an increase of $4,942,000. The continuing National program of water resources investigations has the objective of appraising the Nation's water resources and providing necessary water data to Federal, State, local and private entities which develop and manage the Nation's water resources. The program produces data and information relevant to the flow and sediment discharge of rivers, the location and quantity of underground waters, the chemical quality and temperatures of waters, the changes caused by nature and by man to water resources, and the availability and suitability of water supplies for present and future demands all of which support water planning, water management, energy development, and improvement of the environment. Included in the program is research needed to increase our understanding of fundamental principles of water occurrence, movement, and interaction with its environment, and technology development to increase the accuracy and usefulness of water data.

Changes during FY 1978 include: $+1,400,000 for the National Stream Quality Accounting Network; $+400,000 for the National Water Data Exchange (NAWDEX); $+1,100,000 for coal hydrology, and $+1,000,000 for water use in the Federal-State Coop Program; $+200,000 for coal hydrology related to coal leasing; $+700,000 for nuclear energy hydrology; a reduction of $74,000 for oil shale hydrology; $+291,000 for pay and space costs; and a reduction of $75,000 representing funds made available in FY 1977 for the one time replacement or repair of items damaged or destroyed in a fire at the Survey's Denver, Colorado facility.

5. Conservation of Lands and Minerals - A total of $72,225,000, an increase of $4,058,000. The continuing program for this activity provides for (a) classification of Federally owned lands for leasable mineral deposits and for sites for development of water resources, (b) evaluation to determine the fair market value of all mineral resources offered for lease by competitive bidding, and (c) regulation and supervision of mineral prospecting, development, and production operations on leased Federal, Indian and Outer Continental Shelf (OCS) lands.

Changes during FY 1978 include: $+2,000,000 for regulation of OCS oil and gas operations; $+1,400,000 for seismic risk/sea bottom studies; $+428,000 for regulation of operations of energy mineral leases on Federal and Indian lands; and $+230,000 for pay and space costs.

6. Land Information and Analysis - A total of $17,986,000, an increase of $268,000. Objectives of the Land Information and Analysis activity are: development and application of multidisciplinary natural science and geographic technology in support of land-use decisionmaking; mapping current land use; accomplishing Survey 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 analysis.

Changes during FY 1978 include: $+250,000 for land resource data applications and $+18,000 for pay and space costs.

7. General Administration - A total of $3,587,000, a decrease of $178,000. This activity provides for management, executive direction and coordination, and administrative support to the Bureau as a whole. This includes such essential functions as budget, finance, personnel, contract negotiation and administration, property management, organization and management analysis.

Changes during FY 1978 includes: $400,000 for general program reductions; $+216,000 for employee compensation payments; and $+6,000 for pay costs.

8. Facilities - A total of $11,720,000, an increase of $2,240,000. The funds included in this activity will finance the operation and maintenance costs, facilities management needs, payments for space rental costs (SLUC), and related special support services necessary for the operation of the National Center complex at Reston, Virginia.

Changes in FY 1978 include: $+1,784,000 for standard level user charges and facilities management and special building services; and $+456,000 for increased GSA space costs.

GEOLOGICAL SURVEY
Status of Authorizations

Authorizations for the Geological Survey are permanent and continuing. The major legislative authorities for Geological Survey activities include the following:

SURVEYS, INVESTIGATIONS, AND RESEARCH

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.

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 ... . "

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.

NATIONAL PETROLEUM RESERVE IN ALASKA

The Naval Reserves Production Act of 1976 (P.L. 94-258) transfers 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 delegated the responsibility for administration of the Reserve to the Geological Survey.

Activity		FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared with 1977
Alaska pipeline related investigations	306	$ 287,201	$ 333,000	$ 333,000	$ --
Topographic surveys and mapping	306	45,353,955	50,382,000	59,802,000	+9,420,000
Geologic and mineral resource surveys and mapping	306	92,322,324	100,124,000	119,390,000	+19,266,000
Water resources investigations	306	57,175,585	63,637,000	68,579,000	+4,942,000
Conservation of lands and minerals	306	41,489,430	68,167,000	72,225,000	+4,058,000
Land information and analysis	306	14,907,854	17,718,000	17,986,000	+268,000
General administration	306	3,397,531	3,765,000	3,587,000	-178,000
Facilities	306	9,500,092	9,480,000	11,720,000	+2,240,000
National petroleum reserve in Alaska	306	--	1,849,000	--	-1,849,000
Unobligated balance carried forward		8,402,028	--	--	--
TOTAL, Surveys, Investigations, and Research		272,836,000	315,455,000	353,622,000	+38,167,000
National Petroleum Reserve in Alaska	305	--	--	209,541,000	+209,541,000
GRAND TOTAL, Geological Survey		272,836,000	315,455,000	563,163,000	+247,708,000

83-561 O - 77 - 43

Funding of Geological Survey Programs (Obligations)

	FY 1976 Actual	T.Q. Actual	FY 1977 Estimate	FY 1978 Estimate
Alaska pipeline related investigations:				
Direct appropriation	$287,201	$85,257	$333,000	$333,000
Total	287,201	85,257	333,000	333,000
Topographic surveys and mapping:				
Direct appropriation	45,353,955	11,547,619	50,382,000	59,802,000
State, counties, and municipalities	3,674,838	882,454	3,600,000	3,800,000
Miscellaneous non-Federal sources	501,129	132,690	700,000	800,000
Bureau of Indian Affairs	209,327	19,673	200,000	200,000
Bureau of Land Management	74,370	58,069	100,000	100,000
Department of Agriculture	1,255,564	433,071	2,150,000	2,000,000
Department of Commerce	129,979	90	10,000	20,000
Department of Defense:				
Military	115,700	22,061	120,000	130,000
Civilian	40,140	19,844	75,000	80,000
Department of Transportation	256,668	30,204	50,000	65,000
National Aeronautics and Space Administration	127,622	--	--	--
National Science Foundation	111,736	5,003	130,000	140,000
Miscellaneous Federal Agenices	369,044	138,128	415,000	485,000
Total	52,220,072	13,288,906	57,932,000	67,622,000
Geologic and mineral resource surveys and mapping:				
Direct appropriation				
Current	92,322,324	24,819,441	100,124,000	119,390,000
Prior year's	34	9,540	10,000	--
States, counties, and municipalities	1,466,736	383,415	1,600,000	1,700,000
Kingdom of Saudi Arabia	4,454,728	1,013,496	5,500,000	6,000,000
Miscellaneous non-Federal sources	481,669	106,198	875,000	960,000
Agency for International Development	359,294	72,679	350,000	400,000
Bureau of Indian Affairs	369,938	121,395	466,733	300,000
Bureau of Land Management	1,850,739	916,782	2,175,996	2,000,000
Bureau of Mines	109,187	--	60,000	50,000
Bureau of Reclamation	88,301	70,911	168,450	200,000
Department of Commerce	341,755	--	108,245	350,000
Department of Defense:				
Military	2,271,525	775,392	3,066,037	3,425,000
Civilian	171,326	61,895	160,000	200,000
Energy Research and Development Administration	3,324,572	1,677,071	4,926,022	4,355,000
Environmental Protection Agency	--	25,794	224,206	500,000
Federal Energy Administration	76,824	44,176	75,000	100,000
National Aeronautics and Space Administration	2,800,183	977,423	2,522,530	3,975,000

	FY 1976 Actual	T.Q. Actual	FY 1977 Estimate	FY 1978 Estimate
National Oceanic and Atmospheric Administration	$1,512,603	$685,001	$2,557,432	$2,250,000
National Science Foundation	1,538,480	64,181	2,142,749	1,600,000
Nuclear Reg. Commission ----	1,438,901	141,032	1,697,600	1,750,000
Miscellaneous Federal Agencies	574,855	227,808	511,000	1,020,000
Total ----------	115,553,974	32,193,630	129,321,000	150,525,000
Water resources investigations:				
Direct appropriation -------	57,175,585	15,916,459	63,637,000	68,579,000
States, counties, and municipalities:				
Matched ----------	26,933,619	7,091,505	27,808,000	30,675,000
Unmatched ----------	2,801,372	580,013	3,000,000	3,000,000
Permittees and licensees of the Federal Power Commission ----------	710,000	201,178	750,000	750,000
Kingdom of Saudi Arabia ----	--	--	400,000	400,000
Miscellaneous non-Federal sources ----------	229,893	58,921	255,000	255,000
Agency for International Development ----------	261,979	39,369	270,000	300,000
Bonneville Power Administration ----------	129,585	31,993	130,000	140,000
Bureau of Indian Affairs ---	179,436	112,656	183,000	195,000
Bureau of Land Management --	1,748,619	493,556	1,930,000	1,990,000
Bureau of Mines ----------	39,131	--	800,000	740,000
Bureau of Reclamation ------	789,596	196,060	790,000	860,000
Department of Agriculture --	752,550	172,146	760,000	790,000
Department of Commerce -----	1,733,259	36,494	360,000	385,000
Department of Defense:				
Military ----------	382,361	92,684	400,000	420,000
Civilian ----------	8,984,412	2,321,664	9,426,000	9,980,000
Department of Housing and Urban Development --------	4,624,204	1,872,964	8,000,000	6,000,000
Department of State --------	327,500	108,700	345,000	370,000
Department of Transportation	213,585	31,307	259,000	280,000
Environmental Protection Agency ----------	1,920,857	571,241	1,716,000	1,705,000
Energy Research and Development Administration ------	1,141,996	445,672	3,387,000	2,619,000
Fish and Wildlife Service --	205,329	44,954	210,000	220,000
National Aeronautics and Space Administration -----	212,836	14,493	175,000	180,000
National Park Service ------	575,599	154,457	550,000	610,000
Tennessee Valley Authority -	215,787	70,011	268,000	300,000
Miscellaneous Federal Agencies	191,158	57,557	133,000	150,000
Total ----------	112,480,248	30,716,054	125,942,000	131,893,000

	FY 1976 Actual	T.Q. Actual	FY 1977 Estimate	FY 1978 Estimate
Conservation of lands and minerals:				
Direct appropriation	$41,489,430	$13,375,154	$68,167,000	$72,225,000
Miscellaneous non-Federal sources	807	--	4,000	4,000
Energy Research and Development Administration	--	--	192,000	192,000
Federal Energy Administration	161,217	--	--	--
Miscellaneous Federal Agencies	25,000	6,000	10,000	10,000
Total	41,676,454	13,381,154	68,373,000	72,431,000
Land information and analysis:				
Direct appropriation	14,907,854	7,794,624	17,718,000	17,986,000
States, counties, and municipalities:				
Matched	119,884	19,025	232,300	280,000
Unmatched	10,000	--	17,700	20,000
Miscellaneous non-Federal sources	1,495,543	468,653	2,625,000	3,225,000
Bureau of Land Management	7,882	--	3,659,000	3,700,000
Department of Transportation	--	179,000	21,000	--
Environmental Protection Agency	--	206,000	100,000	100,000
National Aeronautics and Space Administration	443,347	60,000	220,000	150,000
Miscellaneous Federal Agencies	293,376	191,226	525,000	725,000
Total	17,277,886	8,918,528	25,118,000	26,186,000
General administration:				
Direct appropriation	3,397,531	1,491,442	3,765,000	3,587,000
Total	3,397,531	1,491,442	3,765,000	3,587,000
Facilities:				
Direct appropriation:				
Current	9,500,092	2,530,307	9,480,000	11,720,000
Prior year's	--	--	20,000	--
Total	9,500,092	2,530,307	9,500,000	11,720,000
National petroleum reserve:				
Direct appropriation	--	--	1,849,000	--
Total	--	--	1,849,000	--
Miscellaneous services to other accounts:				
Miscellaneous non-Federal sources	49,000	9,843	79,000	126,000
Computer services for other Federal Agencies	732,000	7,877	611,000	731,000
Miscellaneous Federal Agencies	795,294	235,113	620,000	656,000
Total	1,576,294	252,833	1,310,000	1,513,000

	FY 1976 Actual	T.Q. Actual	FY 1977 Estimate	FY 1978 Estimate
Summary:				
Direct appropriation:				
Current	$264,433,972	$77,560,303	$315,455,000	$353,622,000*
Prior year's	34	9,540	30,000	--
States, counties, and municipalities	35,006,449	8,956,412	36,258,000	39,475,000
Miscellaneous non-Federal sources	7,922,769	1,990,979	11,188,000	12,520,000
Other Federal Agencies	46,606,528	14,340,877	60,512,000	60,193,000
TOTAL	353,969,752	102,858,111	423,443,000	465,810,000*

* Excludes National Petroleum Reserve (funds available to the President).

Surveys, Investigations, and Research

Appropriation, 1976	$267,247,000	
Facilities overtime services supplemental appropriation	600,000	
Pay cost supplemental appropriation	4,989,000	
Total appropriation, 1976		$272,836,000
Appropriation, 1977	305,896,000	
Pay cost supplemental (October 1976 pay raise)	9,559,000	
Total available, 1977		315,455,000

Summary of Increases and Decreases, 1978

	Base for 1978	Change 1978	
Topographic surveys and mapping:			
New quadrangle mapping	$28,685,000	$+1,500,000	
Quadrangle map revision	5,666,000	+2,000,000	
Modernization of mapping technology	3,005,000	+3,000,000	
Intermediate scale mapping	3,420,000	+3,000,000	
Denver fire	250,000	-250,000	
GSA space costs	--	+94,000	
Annualization of October 1976 pay raise	--	+76,000	+9,420,000
Geologic and mineral resource surveys and mapping:			
Earthquake hazards reduction - hazard delineation and evaluation	4,638,000	+6,413,000	
Earthquake hazards reduction - prediction	5,270,000	+9,033,000	
Earthquake hazards reduction - data and information services	1,796,000	+854,000	
Volcano hazards	716,000	+300,000	
Environmental aspects of energy	6,589,000	+500,000	
Regional mapping and technology	14,392,000	-1,500,000	
Wilderness mineral surveys	1,340,000	+1,300,000	
Conterminous States mineral surveys	1,941,000	+2,000,000	
Coal resource investigations - Federal coal leasing exploration	--	+2,000,000	
Denver fire	2,075,000	-2,075,000	
GSA space costs	--	+299,000	
Annualization of October 1976 pay raise	--	+142,000	+19,266,000

	Base for 1978	Change 1978	
Water resources investigations:			
Data collection and analysis - baseline water quality	$3,276,000	$+1,400,000	
National water data exchange	276,000	+400,000	
Federal-State coop program - coal hydrology	1,678,000	+1,100,000	
Federal-State coop program - water use data	--	+1,000,000	
Coal hydrology - coal leasing on public lands	1,822,000	+200,000	
Nuclear energy hydrology	1,339,000	+700,000	
Oil shale hydrology	2,472,000	-74,000	
Denver fire	75,000	-75,000	
GSA space costs	--	+202,000	
Annualization of October 1976 pay raise	--	+89,000	+4,942,000
Conservation of lands and minerals:			
Regulation of OCS oil and gas operations	14,779,000	+2,000,000	
OCS seismic risk and ocean bottom stability	--	+1,400,000	
Regulation of operations on Federal and Indian energy minerals	3,381,000	+428,000	
GSA space costs	--	+160,000	
Annualization of October 1976 pay raise	--	+70,000	+4,058,000
Land information and analysis:			
Land resource data applications	2,454,000	+250,000	
GSA space costs	--	+3,000	
Annualization of October 1976 pay raise	--	+15,000	+268,000
General administration:			
General administration program reduction	3,268,426	-400,000	
Reimbursement to Bureau of Employee Compensation	496,574	+216,000	
Annualization of October 1976 pay raise	--	+6,000	-178,000
Facilities:			
Standard level user charge	6,890,000	+820,000	
Facilities management and special building services	2,590,000	+964,000	
GSA space costs	--	+456,000	+2,240,000
National petroleum reserve:			
Reduction for one time transition costs	841,000	-841,000	
Reduction for one time EIS preparation costs	1,008,000	-1,008,000	-1,849,000
Net increase, 1978			+38,167,000
Budget estimate, 1978			353,622,000

SURVEYS, INVESTIGATIONS, AND RESEARCH

Analysis by Activities

	FY 1976 Amount Available	FY 1977 Total Appropriation	FY 1977 Pay Cost	FY 1977 Amount Available
1. Alaska Pipeline Related Investigations	$ 287,201	$ 321,000	$ 12,000	$ 333,000
2. Topographic Surveys and Mapping	45,353,955	48,568,000	1,814,000	50,382,000
3. Geologic and Mineral Resource Surveys and Mapping	92,322,324	96,752,000	3,372,000	100,124,000
4. Water Resources Investigations	57,175,585	61,548,000	2,089,000	63,637,000
5. Conservation of Lands and Minerals	41,489,430	66,517,000	1,650,000	68,167,000
6. Land Information and Analysis	14,907,854	17,314,000	404,000	17,718,000
7. General Administration	3,397,531	3,628,000	137,000	3,765,000
8. Facilities	9,500,092	9,448,000	32,000	9,480,000
9. National Petroleum Reserve	--	1,800,000	49,000	1,849,000
Unobligated Balance Carried Forward	8,402,028 a/	--	--	--
TOTAL	272,836,000	305,896,000	9,559,000	315,455,000

a/ This amount was available for obligation during the Transition Quarter.

SURVEYS, INVESTIGATIONS, AND RESEARCH

Analysis by Activities

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
1. Alaska Pipeline Related Investigations	$ 287,201	$ 333,000	$ 333,000	$ --	GS-18
2. Topographic Surveys and Mapping	45,353,955	50,382,000	59,802,000	+9,420,000	GS-20
3. Geologic and Mineral Resource Surveys and Mapping	92,322,324	100,124,000	119,390,000	+19,266,000	GS-34
4. Water Resources Investigations	57,175,585	63,637,000	68,579,000	+4,942,000	GS-79
5. Conservation of Lands and Minerals	41,489,430	68,167,000	72,225,000	+4,058,000	GS-101
6. Land Information and Analysis	14,907,854	17,718,000	17,986,000	+268,000	GS-120
7. General Administration	3,397,531	3,765,000	3,587,000	-178,000	GS-135
8. Facilities	9,500,092	9,480,000	11,720,000	+2,240,000	GS-140
9. National Petroleum Reserve	--	1,849,000	--	-1,849,000	
Unobligated Balance Carried Forward	8,402,028	--	--	--	
TOTAL	272,836,000	315,455,000	353,622,000	+38,167,000	

SURVEYS, INVESTIGATIONS, AND RESEARCH

Analysis by Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Auth. Perm. Pos.	1978 Estimate	Auth. Perm. Pos.	Increase or Decrease (-) 1978 compared with 1977 Dollars	Pos.
1. Alaska Pipeline Related Investigations							
Total	$287,201	$333,000	4	$333,000	4	$ --	--
2. Topographic Surveys and Mapping							
A. Quadrangle Mapping & Revision	38,265,887	42,408,000	1,558	48,698,000	1,563	+6,290,000	+5
B. Small Scale and Special Mapping	5,358,244	5,068,000	123	8,043,000	126	+2,975,000	+3
C. National Cartographic Information Center	1,729,824	2,906,000	30	2,891,000	30	-15,000	--
D. GSA Space	--	--	--	94,000	--	+94,000	--
E. Annualize Pay Costs	--	--	--	76,000	--	+76,000	--
F. Reduction to In-house Publication Services	--	--	11	--	--	--	-11
Total	45,353,955	50,382,000	1,722	59,802,000	1,719	+9,420,000	-3
3. Geologic and Mineral Resource Surveys and Mapping							
A. Land Resource Surveys	34,076,926	35,152,000	866	50,552,000	902	+15,400,000	+36
B. Mineral Resource Surveys	19,774,633	24,175,000	581	25,800,000	599	+1,625,000	+18
C. Energy Resource Surveys	23,000,362	26,138,000	440	27,938,000	442	+1,800,000	+2
D. Offshore Geologic Surveys	15,470,403	14,659,000	156	14,659,000	156	--	--
E. GSA Space	--	--	--	299,000	--	+299,000	--
F. Annualize Pay Costs	--	--	--	142,000	--	+142,000	--
G. Reduction of In-house Publication Services	--	--	10	--	--	--	-10
Total	92,322,324	100,124,000	2,053	119,390,000	2,099	+19,266,000	+46

Analysis by Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Auth. Perm. Pos.	1978 Estimate	Auth. Perm. Pos.	Increase or Decrease (-) 1978 compared with 1977 Dollars	Pos.
4. Water Resources Investigations							
A. National Water Data System - Federal Program	$20,576,798	$21,853,000	643	$23,578,000	655	+1,725,000	+12
B. National Water Data System - Federal State Program	27,917,224	29,044,000	853	31,144,000	853	+2,100,000	--
C. Critical National Water Problems	8,681,563	12,740,000	195	13,566,000	197	+826,000	+2
D. GSA Space	--	--	--	202,000	--	+202,000	--
E. Annualize Pay Cost	--	--	--	89,000	--	+89,000	--
F. Reduction of In-house Publication Services	--	--	3	--	--	--	-3
Total	57,175,585	63,637,000	1,694	68,579,000	1,705	+4,942,000	+11
5. Conservation of Lands and Minerals							
A. OCS Lands	26,193,999	38,372,000	866	41,772,000	889	+3,400,000	+23
B. Federal and Indian Lands	15,295,431	29,795,000	805	30,223,000	812	+428,000	+7
C. GSA Space	--	--	--	160,000	--	+160,000	--
D. Annualize Pay Cost	--	--	--	70,000	--	+70,000	--
Total	41,489,430	68,167,000	1,671	72,225,000	1,701	+4,058,000	+30
6. Land Information and Analysis							
A. Earth Resource Observation Systems	8,158,154	9,545,000	45	9,545,000	45	--	--
B. Environmental Impact Analysis	2,040,400	3,192,000	68	3,192,000	68	--	--
C. Geography	2,340,600	2,527,000	34	2,527,000	34	--	--
D. Land Resource Data Applications	2,368,700	2,454,000	52	2,704,000	54	+250,000	+2
E. GSA Space	--	--	--	3,000	--	+3,000	--
F. Annualize Pay Costs	--	--	--	15,000	--	+15,000	--
G. Reduction of In-house Publication Services	--	--	1	--	--	--	-1
Total	14,907,854	17,718,000	200	17,986,000	201	+268,000	+1

Analysis by Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Auth. Perm. Pos.	1978 Estimate	Auth. Perm. Pos.	Increase or Decrease (-) 1978 Compared with 1977 Dollars	Pos.
7. General Administration							
Total	$3,397,531	$3,765,000	162	$3,587,000	152	$-178,000	-10
8. Facilities							
A. Standard Level User Charges Facilities Management & Special Building Services	9,500,092	9,480,000	37	11,264,000	37	+1,784,000	--
B. GSA Space	--	--	--	456,000	--	+456,000	--
Total	9,500,092	9,480,000	37	11,720,000	37	+2,240,000	--
9. National Petroleum Reserve							
Total	--	1,849,000	27	--	--	-1,849,000	-27
Unobligated Balance Carried Forward	8,402,028	--	--	--	--	--	--
Total, Surveys, Investigations, and Research	272,836,000	315,455,000	7,570	353,622,000	7,618	+38,167,000	+48

1. Alaska Pipeline Related Investigations

FY 1977, $333,000; FY 1978, $333,000; no change.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
--	--	$333,000	4	Alaska pipeline related investigations

Program Synopsis

The Geological Survey's Alaska pipeline investigations program consists of geologic, hydrologic, and seismic studies required for monitoring the construction and initial operations of the trans-Alaska oil pipeline in order to assure conformance to technical and environmental stipulations of the construction permit. These studies also will aid in the solution of engineering geologic problems to help assure proper maintenance and operation of the pipeline.

In FY 1978 the pipeline is expected to begin pumping oil, and an important function of the project will be to determine the cause of geotechnical maintenance problems that arise and to evaluate the adequacy of Department of Interior construction stipulations aimed at safeguarding the environment, especially in areas of continuous and discontinuous permafrost (Figure A-1). Hydrologic investigations will continue the collection, monitoring, and interpretation of data on streamflow, groundwater, water quality, glacial activity, and other pertinent hydrologic factors necessary to safeguard operation of the pipeline. Seismic investigations will be continued in order to determine and evaluate potential earthquake and earthquake related hazards (Figure A-1) along the pipeline route and to develop techniques for monitoring earthquakes as a means of reducing or preventing damage to the pipeline.

The Geological Survey was the lead agency in preparing the six-volume Department of Interior environmental impact statement on the pipeline. In addition, Survey personnel have contributed more than 50 published reports on a wide variety of subjects on the terrain, surficial and bedrock geology, permafrost, surface and groundwater, flooding, glaciology, and environmental conditions along the pipeline corridor. Future products of the program are expected to be concerned principally with seismic and hydrologic studies.

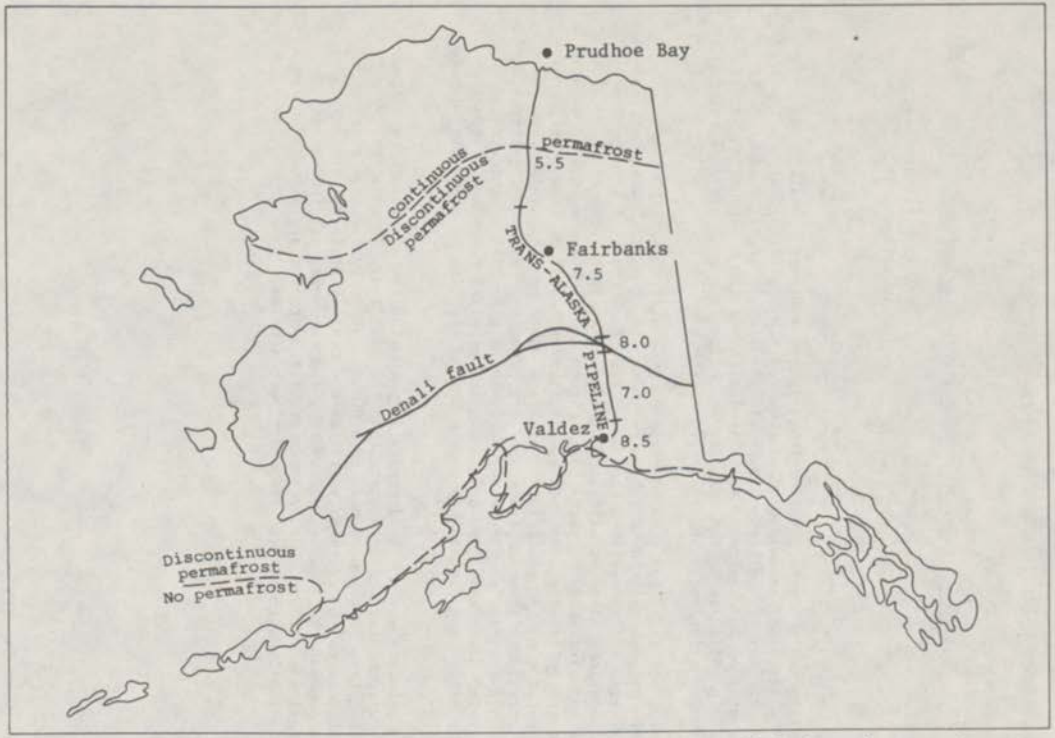


Figure A-1 Map showing route of the trans-Alaska pipeline, the Denali fault, and zones of continuous, discontinuous, and no permafrost. Numbers along segments of the pipeline route are maximum probable earthquake magnitudes.

2. Topographic Surveys and Mapping

FY 1977, $50,382,000; FY 1978, $59,802,000; increase, $9,420,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)	$+6,290,000	+5	$48,698,000	1,563	Quadrangle Mapping and Revision - New topographic quadrangle mapping/ quadrangle revision/ Modernization of mapping technology.
(B)	+2,975,000	+3	8,043,000	126	Small Scale and Special Mapping - Intermediate-scale mapping.
(C)	- 15,000	--	2,891,000	30	National Cartographic Information Center - Denver fire.
(D)	+ 94,000	--	94,000	--	GSA space costs.
(E)	+ 76,000	--	76,000	--	Annualize increased pay costs E.O. 11941
(F)	--	-11	--	--	Reduction of in-house publications services.
	$+9,420,000	- 3	$59,802,000	1,719	

Program Synopsis

The objective of the National Mapping Program is to prepare and make available multipurpose maps and fundamental cartographic data to meet the new and expanding mapping needs of the Nation. The FY 1978 program provides for increased efforts in new and revised mapping, accelerated production of multi-purpose intermediate scale base maps, and increased production capability through equipment and technology modernization. The program includes those activities necessary to make available base mapping data as well as a family of general purpose maps. These maps and related mapping data are basic tools necessary to assist in such activities as: the identification and development of energy resources; land use planning, environmental studies; economic and industrial studies; location and development of highways; selection of power and communication sites and routes and dam and reservoir sites; flood plain studies and flood and erosion control; and military and civil defense. By the end of FY 1977, published 7.5 minute topographic maps will be available for about

69 percent of the United States and outlying areas, except in Alaska where 1:63,360-scale maps are the norm. Maps of about 85 percent of Alaska will have been published at the 1:63,360-scale by the end of FY 1977. Nationwide, during FY 1978, about 90,000 square miles of new quadrangle mapping and 90,00 square miles of map revision, will be accomplished.

Intermediate-scale mapping at scales of 1:50,000 and 1:100,000 in quadrangle or county format will increase to about 600 maps in FY 1978 from about 400 maps in FY 1977. Other small-scale and special maps will be prepared to meet existing as well as new requirements.

The National Cartographic Information Center will continue to acquire and organize information on cartographic data produced by Federal, State and private organizations and to serve as a focal point to the user public for their requests for information about those data.

A. Quadrangle Mapping and Revision

FY 1977, $42,408,000; FY 1978, $48,698,000; increase, $6,290,000.

Major Program Changes

(1) New topographic quadrangle mapping — $+1,500,000; total, $30,185,000
No position change: total, 1,160

Proposal - Production of new topographic quadrangle maps will be accelerated in areas of high national concern, including the coastal areas; energy and natural resource lands containing oil, oil shale, and coal; other critical environmental areas; and the National Petroleum Reserve in Alaska.

Justification - Accurate and current general purpose topographic maps are needed in increasing quantities to help officials at all levels of Government in planning and using the Nation's resources, protecting the environment, developing urban areas, coastal zone management, public lands management, recreational planning, energy exploration and development, planning by public utility companies, plant locations and expansion, and related general land use. New maps will be required in a compressed period to support these activities.

Cost Factors - Aerial photography, $50,000; supplies and equipment, $175,000; contracts, $1,175,000; and other costs, $100,000.

(2) Topographic quadrangle map revision — $+2,000,000; total, $7,666,000
No position change; total, 252

Proposal - The nationwide map inspection/revision program will be accelerated to update the content and improve the accuracy of 7.5-minute quadrangle maps where needed. Priority will be given to urban, coastal, energy resource and transportation areas.

A systematic, continuous map maintenance program is needed and will provide for an increase in the number of maps inspected and revised.

	FY 1977		FY 1978	
	Number	(square miles)	Number	(square miles)
Maps inspected -----	4,000	(225,000)	4,500	(275,000)
Maps revised -------	1,300	(74,000)	1,600	(90,000)

Justification - Many maps in critical areas are out of date and do not satisfy present day requirements for current and accurate information. Many existing maps of rapidly changing areas have been revised two or three times by photo revision to satisfy short-run requirements and now require a more thorough and accurate revision. A systematic continuous map maintenance program is needed to update existing maps - especially those covering areas of population growth and industrial expansion in coastal areas; along major transportation routes, where Federal, State and local agencies need current map products for planning and making decisions on critical land use, energy development, and environmental issues; and around commercial airports. The availability of up-to-date 7.5-minute maps is critical to other mapping efforts including the intermediate scale program because they are the basic source for compilation of other scale maps. Currently about 25 percent of the published maps require inspection and about half of these will need to be revised.

Cost Factors - Aerial photography, $250,000; supplies and equipment, $170,000; contracts, $1,500,000; and other costs, $80,000.

(3) Modernization of mapping technology $+3,000,000; total, $6,005,000
+5 positions; total, 7

Proposal - New automated mapping instruments and associated equipment will be purchased, and instruments will be upgraded with semiautomatic and digital data recording components. Depending on the state-of-the-art and availability, the following instruments and associated equipment will be purchased in FY 1977 and FY 1978:

	FY 1977	FY 1978
High speed graphic output plotters	2 to 3	3 to 4
Digital slope correcting orthophoto printer ----------	1	1
Automatic image correlation hardware	1	1 to 2
Digital data edit hardware --------	1	1 to 2
Photogrammetric digital data recording systems ----------	1	1 to 2
Laser pressplate maker ----------	--	1
Map scanner/digitizer ----------	--	1
High density digital map data storage system ----------	--	1

Other proposed activities include:

- o New instrumentation and computer programs to provide the needed capability not currently available with existing equipment.
- o Design and implementation of digital cartographic data base to respond to Federal and State needs for digital data and to aid future map production and revision.

83-561 O - 77 - 44

- o A new map inventory and ordering system to provide information required to help reduce and eventually eliminate problems associated with out-of-stock maps, map storage and inventory levels, and responsiveness to user demands.

Justification - The requested increase will provide the initial instrumentation and techniques needed to produce cartographic data for meeting present and emerging demands -- a capability that present instruments and technology cannot supply. New capability developments will be planned and executed to take full advantage of advanced technology developed by the Department of Defense. It is necessary to increase program efficiency and flexibility so that user requirements for map data in digital and graphic form can be satisfied in weeks rather than the months or years presently required. Requests are increasing for cartographic data in digital and new graphic forms for use in computer-based land use and resource management information systems. Categories of such data include terrain, drainage, transportation nets, political and survey boundaries, and slopes. These data are inherent to the mapping process, but present equipment does not allow for their collection and display, lacks the flexibility to provide both digital and graphic format, and is manpower intensive. The new instruments and techniques will be designed for increased flexibility and production without increasing personnel. The new map inventory control system will employ modern inventory monitoring and control procedures which will provide for the necessary stock level information to allow timely and effective programming of reprints, and thereby eliminating the out-of-stock map problem. It will also provide for more responsive service to users, more effective use of available storage space, and ultimately reduced printing and distribution costs.

Cost Factors - Personnel services and benefits costs for five (5) positions at an annual rate of $20,750, $103,750; other costs, $71,250; equipment, $1,500,000; research and development contracts, $1,325,000.

(4)	All other programs	No program change, total, $4,842,000 No position change, total, 144
(5)	Denver fire	$-210,000

Proposal - This funding made available in fiscal year 1977 was for the one time replacement and repair of items damaged or destroyed in a fire at the Survey's Denver, Colorado facility.

Program Description

(1)	New topographic quadrangle mapping	$+1,500,000; total $30,185,000 No position change; total, 1,160

The primary objective of the topographic quadrangle mapping activity is to prepare new general-purpose topographic maps of areas that are not presently covered with 7.5-minute maps in the conterminous United States or 1:63,360-scale in Alaska. The effort in FY 1978 will concentrate on the coastal areas, public lands, other energy and mineral resource areas, and on the National Petroleum Reserve in Alaska. About 90,000 square miles of topographic quadrangle mapping will be accomplished in FY 1978 and it is expected that published maps will be available at the end of FY 1977 for 69 percent of the conterminous U.S., Hawaii, and outlying areas, and 85 percent of Alaska. Figure T-1 shows the unmapped areas of the United States at 1:24,000 and 1:63,360-scales.

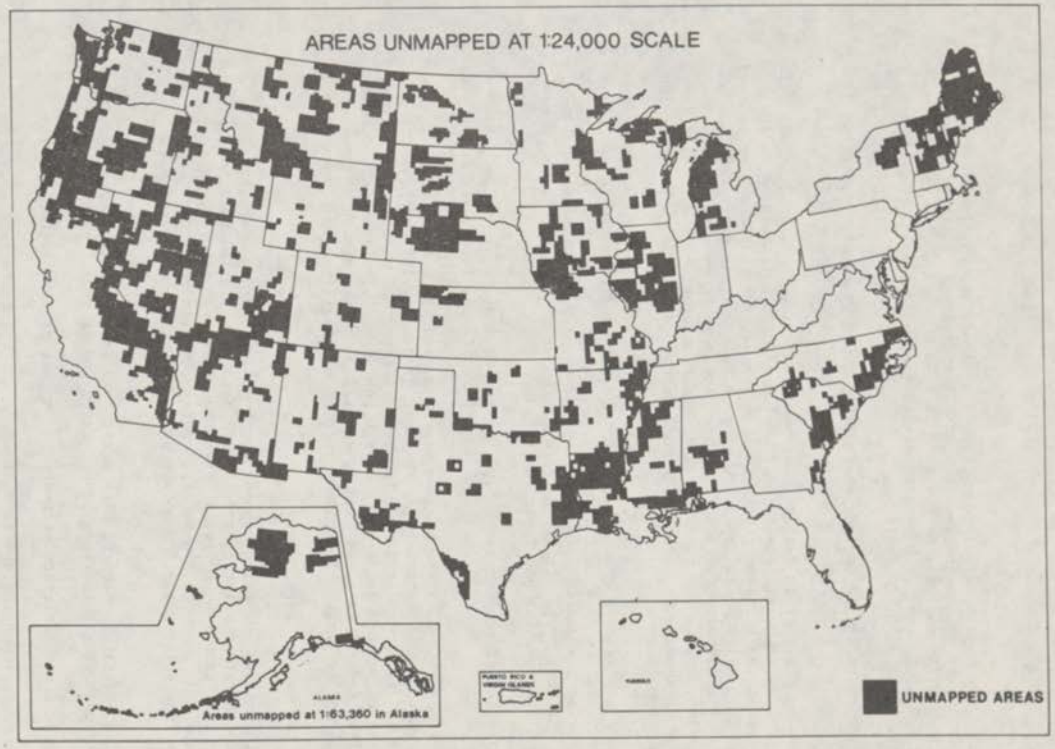


Figure T-1. Approximately 800,000 square miles unmapped at designated scales, as of September 30, 1976. Neither published maps nor advance copy are available at these scales for the areas shaded.

These standard quadrangle maps are prepared through funding by direct appropriations and by State cooperative programs in which 50 percent is provided by the States. Figure T-2 shows the percentage of published 1:24,000-scale maps for each State.

Preparation of new maps will be accomplished in either the English or metric system, depending on the unique requirements of individual States or Federal agencies. They will generally be prepared at 1:24,000 scale with English measurements or at 1:25,000 scale with metric measurements. In Alaska, the new maps will be 1:63,360 or 1:50,000 scale.

(2)	Topographic quadrangle map revision	$+2,000,000; total, $7,666,000 No position change; total, 252

The map revision activity is designed to update existing topographic quadrangle maps. The goal is to accelerate this effort based on a nationwide 5 to 10 year systematic inspection/revision program. As a result, more maps will be updated and improved in quality where necessary to provide a current cartographic presentation of transportation routes, urban development, boundaries, streams and water bodies, coastal encroachment and accretion/erosion, and to depict the multitude of changes to the earth's surface caused by mining, construction, floods, and other causes.

The 7.5-minute topographic general purpose maps are used by managers and planners and for operational needs at all levels of government and in private enterprise. They also provide the basic source material for compilation of other smaller scale maps. (Figure T-3). It is, therefore, important to maintain these maps by a systematic inspection and revision program.

(3)	Modernization of mapping technology	$+3,000,000; total, $6,005,000 +5 positions; total, 7

The principal objectives of the program are to expand the present mapping capability, improve the response time to users' requests, increase quality and quantity of orthophoto products, improve efficiency of present map making operations and to provide leadership through the Survey's role as lead agency in the civilian Federal agencies' use of special DOD materials which involves the equipping and operation of a unique special map facility.

Elements of the program include:

o Procuring modern automated mapping instruments to produce digital map data and converting existing graphic map data into digital form to meet demands that cannot be met with present capability. Figure T-4 shows an example of a new modern mapping system required to produce maps and map data in new forms that cannot be provided with more conventional instruments.

o Upgrading existing equipment with semiautomatic and digital data processing accessories to increase productivity and program flexibility.

o Developing instruments and software to improve present technology.

o Designing, implementing and maintaining a digital cartographic data base.

o Designing a new map inventory and map ordering system that will

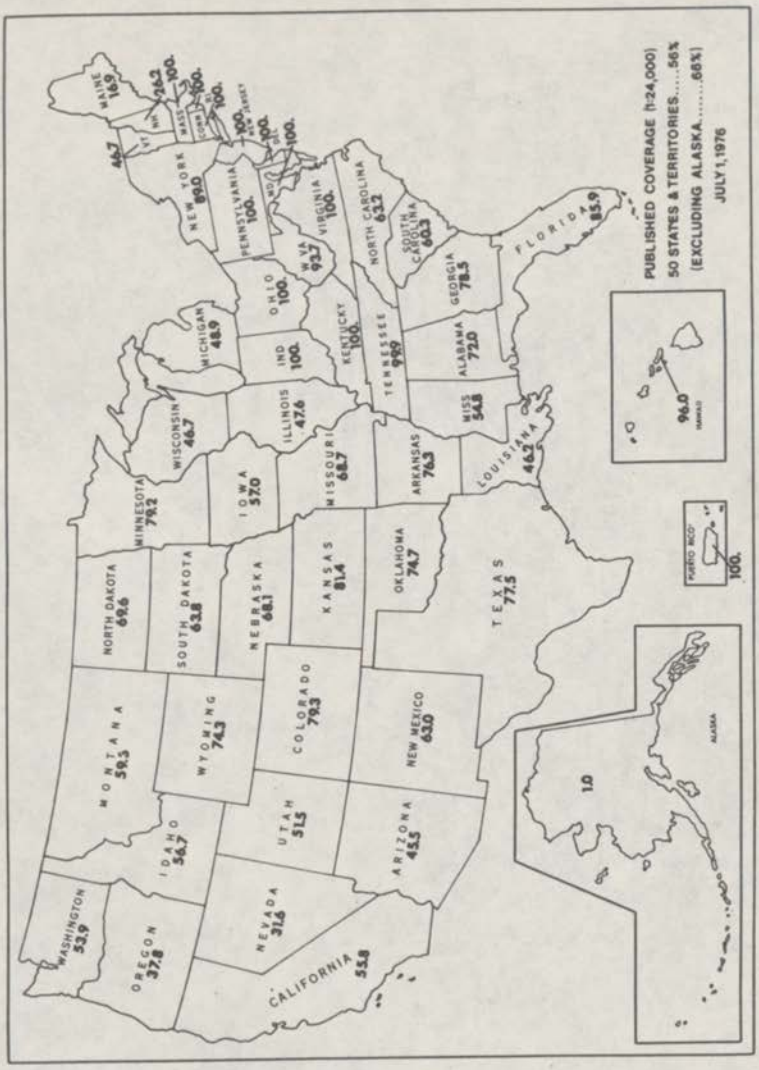
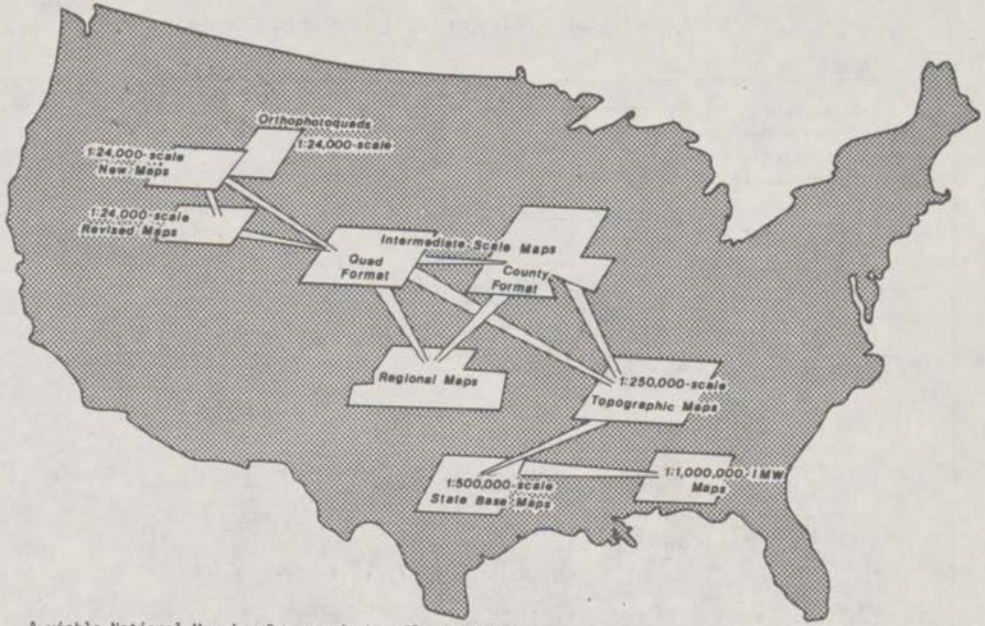


Figure T-2. Percentage, by State, of 1:24,000-scale published maps.

7.5-minute maps - the primary source for small scale mapping



A viable National Mapping Program is heavily dependent on a sound topographic quadrangle mapping program and a nationwide systematic map revision program.

Figure T-3.

AUTOMATED MAPPING SYSTEM for DIGITAL CARTOGRAPHIC DATA COLLECTION

Transforms aerial imagery and existing map features into analytical models which are processed electronically to produce precise cartographic products in graphic and digital form for study of:

•TERRAIN SURFACE	Terrain analysis for aircraft guidance Slope maps for timber management Coal overburden analysis
•TRANSPORTATION	Selecting pipeline routes Power and high voltage transmission routes Road classification (heavy, medium or light duty)
•SURFACE HYDROLOGY	Drainage basin studies Surface water inventories
•BOUNDARIES	Federal Land Ownership Political and congressional district boundaries Geographic analysis
•RECTANGULAR SURVEY SYSTEM	Land office surveys State Plane Coordinate System

Figure T-4.

materially aid in the reduction of, and eventual elimination of, the problem of out-of-stock maps and improve service to map users. There are approximately 60,000 different published maps in the USGS inventory and approximately 100 million total copies in stock. These figures are expected to increase along with the quantity of maps distributed annually.

(4) Orthophotoquads — No program change; total, $4,842,000
No position change; total, 144

The 7.5-minute format orthophotoquad program provides a uniform scaled photoimage product that can be used as an interim or companion product to existing maps, and which supports State and Federal needs. Examples of Federal agency use include Bureau of Indian Affairs for the management of Indian lands, U.S. Forest Service for timber management and general land management of selected forest areas, the USDA's Soil Conservation Service in their program of soil studies, and related programs. Orthophotoquads also assist in State programs, such as resource investigations, land use studies, transportation planning, and local programs pertaining to taxation and revenue, zoning, police and fire protection, and sewerage and water supply systems.

By the end of FY 1977, the U.S. Geological Survey plans to have available orthophoto products covering most areas not covered by 7.5-minute topographic maps. Innovative new techniques have been developed to produce color orthophotoquads from two filtered black and white photographs which should make the products even more usable. Products of this type were first prepared in FY 1976 for the U.S. Customs Service covering areas in the State of New York along the United States and Canadian border.

(5) Denver fire — $- 210,000

B. Small Scale and Special Mapping

FY 1977, $5,068,000; FY 1978, $8,043,000; increase, $2,975,000

Major Program Changes

(1) Intermediate-scale mapping — $+3,000,000; total, $6,420,000
+3 positions; total, 87

Proposal - The primary objective is to accelerate the production of multipurpose intermediate-scale maps to meet the national needs for this type of product. These maps, which can be prepared in several different versions from one set of base map data, will support planning and decision making by Federal, State, county, and many private organizations. Initial emphasis is to satisfy the needs of the Bureau of Land Management, Soil Conservation Service, Department of Defense, and several States. Maps will be prepared at 1:100,000 or 1:50,000 scale in quadrangle or county format.

Justification - Federal and State agencies are recognizing the value of a uniform set of base maps on which they can depict additional data to meet their special requirements. As more States and Federal agencies use these compatible sets of basic cartographic information, an additional direct cost savings to the Federal Government can be realized.

Requirements continue to increase for these products at the 1:50,000 and

1:100,000 scales in quadrangle and county format. Production is expected to increase in 1977 over 1976 and to continue upward through FY 1978.

For the Bureau of Land Management, 1:100,000-scale planimetric maps in quadrangle format are required to support their needs relating to mineral management activities. Also required are 1:100,000-scale topographic editions to support environmental impact studies of range and timber management plans.

For the Soil Conservation Service (SCS), 1:100,000-scale planimetric maps in county format are required to support their Prime and Unique Farmlands Inventory Program. SCS needs will increase approximately twofold in FY 1978 and continue at that level at least through 1980. States' needs, as well as Federal needs, will be met through the preparation of these base maps.

	FY 1977 (square miles)	FY 1978 (square miles)
Quadrangle format for the Bureau of Land Management, other Federal agencies, and States	400,000	425,000
County format for the Soil Conservation Service, States, and counties	300,000	550,000

Other Federal agencies have requirements for intermediate-scale maps. Department of Defense's map needs involve 1,600 15-minute quadrangle areas. U.S. Forest Service's map needs involve all of the Federal forest lands which are about 20 percent of the conterminous U.S. The Survey will begin to meet some of these requirements in FY 1977.

Cost Factors - Personnel services and benefits costs for three (3) positions at an annual rate of $16,750, $50,250; other related costs, $99,750; supplies and equipment, $450,000; and contracts, $2,400,000.

(2) All other programs — No program change; total, $1,623,000
No position change; total, 39

(3) Denver Fire — $-25,000

Proposal - This funding, made available in fiscal year 1977, was for the one time replacement and repair of items damaged or destroyed in a fire at the Survey's Denver, Colorado facility.

Program Description

(1) Intermediate-scale mapping — $+3,000,000; total, $6,420,000
+3 positions; total, 87

This program is designed to provide multipurpose intermediate-scale base maps for meeting user needs for a product at a scale between the 1:24,000 and the 1:250,000 series. The design of these base maps provides for the display of various combinations of map information in graphic form or for digitizing the data. The digital cartographic data can be readily available for a multiplicity of uses by Federal, State, regional, county, and other agencies. The principal formats are the 30- by 60-minute quadrangles at 1:100,000 scale and county maps at 1:100,000 or 1:50,000 scale. Figure T-5 shows areas where intermediate-scale

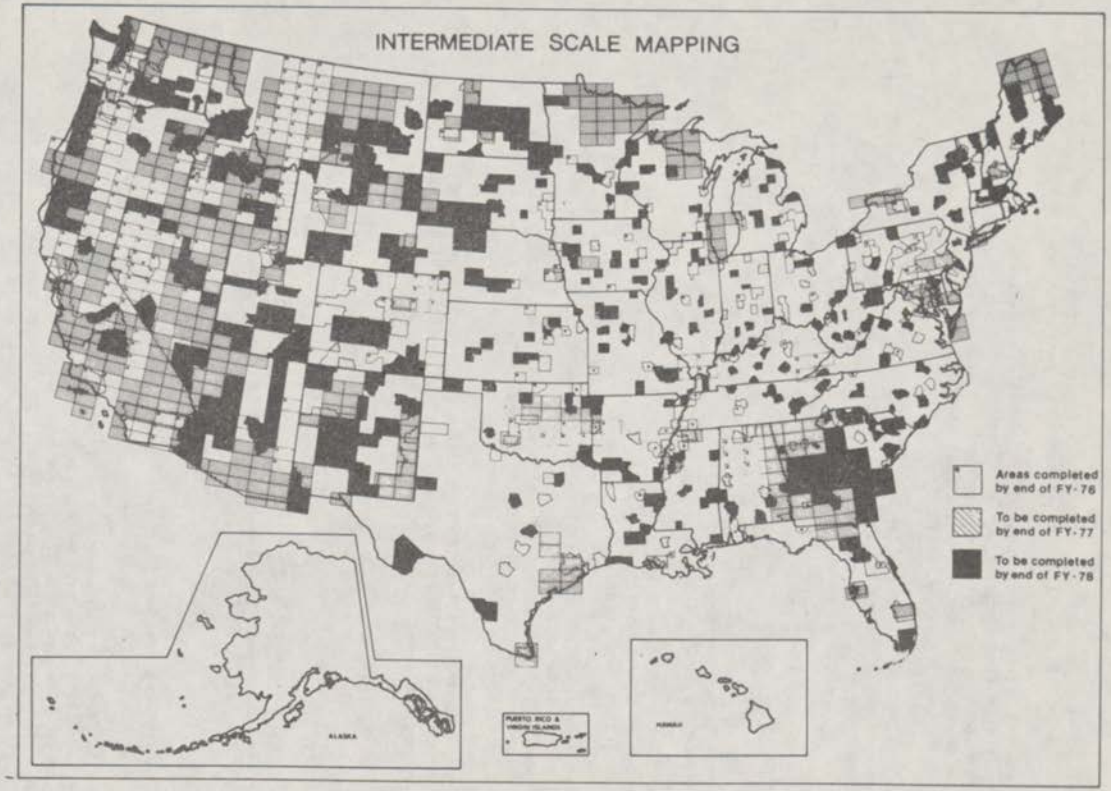

INTERMEDIATE SCALE MAPPING
Areas completed by end of FY-76
To be completed by end of FY-77
To be completed by end of FY-78
ALASKA
PUERTO RICO & VIRGIN ISLANDS
HAWAII

Figure T-5.

maps are available, and areas expected to be completed by FY 1977 and FY 1978.

(2) All other programs — No program change; total,$1,623,000
No position change; total,39

o The 1:250,000-scale map series (approximately 4 miles to the inch) is the largest scale series now providing complete coverage of the United States. Maps in this series are used to support national and regional planning and resource development and management, and to serve as a base for displaying such information as aeronautical routes and installations, statistical data, and current land use and land cover. They also provide the source materials for the preparation of smaller scale maps, e.g., aeronautical charts, State maps, maps of the International Map of the World (IMW) series, and other special purpose small-scale maps. The purpose of the program continues to be revision of this set of 468 maps on a cycle to insure the usefulness of the products. By revising about 60 maps per year, a revision cycle of 5 years for metropolitan and high activity areas and 8 to 10 years for more remote areas can be achieved. As the intermediate-scale topographic maps at 1:100,000 scale are completed, they will provide the base materials for preparing newer, more accurate editions of the 1:250,000-scale maps as necessary.

o The State Map Series provides complete coverage of the conterminous United States and Hawaii at the 1:500,000 scale on a State format.

o The National Park Series provides for special topographic map coverage of several national parks. Map requirements are provided by the National Park Service for new mapping and revision. The maps are used by Park Service administrators for resource and land management, and they assist visitors in identifying the available facilities.

o The remaining small scale and special mapping activities include the 1:1,000,000 scale International Map of the World, slope maps, United States maps, and single map separates for the National Atlas of the United States.

(3) Denver fire — $- 25,000

C. National Cartographic Information Center

FY 1977, $2,906,000; FY 1978, $2,891,000; decrease, $15,000

Major Program Changes

(1) National Cartographic Information Center — No program change; total, $2,891,000
No position change; total, 30

(2) Denver fire — $- 15,000

Proposal - This funding, made available in fiscal year 1977, was for the one time replacement and repair of items damaged or destroyed in a fire at the Survey's Denver, Colorado, facility.

Program Description

(1) National Cartographic Information Center — No program change; total, $2,891,000
No position change; total, 30

The National Cartographic Information Center continues to acquire information about

cartographic data, develop systems for rapid retrieval of the information, and answer user inquiries. The basic information systems will be continually updated and maintained to provide a growing number of map users with the best and most complete data available in a timely manner. Five major systems to organize information on cartographic data are under development. Two aerial photography systems have been completed -- one for summary information needed to avoid duplication of effort, and one for detailed ordering information. Other systems for general referral information on all data, summary information on maps and charts, and detailed ordering information on maps and charts have been started.

In FY 1977, management agreements will have been completed with 18 Federal and State agencies. These agreements provide for exchange of data and information and establish a means to service more requests.

(2)	Denver fire	$- 15,000
D.	GSA Space Cost	Increase, $94,000

The amount requested is to provide for increased costs of space furnished by GSA.

E.	Annualization of Pay Costs	Increase, $76,000
F.	Reduction of in-house Publications Services	Decrease of 11 positions

Proposal - During FY 1978 the Geological Survey will increase the use of outside contracting for publication services provided to program activities.

3. Geologic and Mineral Resource Surveys and Mapping

FY 1977, $100,124,000; FY 1978, $119,390,000; increase, $19,266,000.

The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)	$+15,400,000	+36	$50,552,000	902	Land Resource Surveys - earthquake hazards reduction/volcano hazards/ environmental aspects of energy/regional mapping
(B)	+ 1,625,000	+18	25,800,000	599	Mineral Resource Surveys - wilderness mineral surveys/ conterminous states
(C)	+ 1,800,000	+ 2	27,938,000	442	Energy Resource Surveys - Federal coal leasing exploration
(D)	--	--	14,659,000	156	Offshore Geologic Surveys
(E)	+ 299,000	--	299,000	--	GSA space costs
(F)	+ 142,000	--	142,000	--	Annualize increased pay costs, E.O. 11941
(G)	--	-10	--	--	Reduction of in-house publication services
	$+19,266,000	+46	$119,390,000	2,099	

Program Synopsis

The continuing national program of geologic research and investigations produces: (a) Geologic, geophysical, and geochemical maps and analyses that show the distribution, age, composition, structure, and physical properties of rocks and minerals at and beneath the Earth's surface; (b) new or improved methods, techniques, and instruments for mineral or energy exploration on land and on the submerged continental margins; and (c) with the help of other agencies, information on the chemistry and physics of the Earth, Moon, and planets and the geologic processes by which they were formed and are continually being modified. The 1978 program provides for increased geologic research and investigations in earthquake hazards reduction, volcano hazards, environmental aspects of energy, mineral resources surveys of wilderness areas, mineral resources assessment of the conterminous states, and Federal coal leasing exploration. A decrease in funds is proposed for the regional mapping and analysis program and for the replacement and repair of equipment and supplies damaged or destroyed in the Denver fire.

A. Land Resource Surveys

FY 1977, $35,152,000; FY 1978, $50,552,000; increase, $+15,400,000.

Major Program Changes

(1) Earthquake hazards reduction — $+16,300,000; total, $28,004,000
+40 positions; total, 280

Proposal. The requested increase is required in three areas:

a. Hazards delineation and evaluation — $+6,413,000; total, $11,051,000
+16 positions; total, 117

To complete the regional-scale evaluation of earthquake geologic hazards in the Western U.S. urban areas of high seismic risk and to extend evaluations to Eastern U.S. urban areas of high seismic risk; to increase studies of the specific earthquake geologic processes that present hazards; to improve the communication with, and the usefulness of products for, decision makers at all levels; and to study the phenomenon of reservoir-induced earthquakes;

b. Prediction — $+9,033,000; total, $14,303,000
+22 positions; total, 115

To continue monitoring and interpretation of the southern California uplift; to increase the rate of observation of earthquake precursors; to improve the capability for processing and analyzing observed data; and to provide a laboratory and theoretical basis for physical models of the earthquake process; and

c. Data and Information Services — $+854,000; total, $2,650,000
+2 positions; total, 48

To operate the Worldwide Standardized Seismograph Network (WWSSN) and reestablish a program of station maintenance; to improve the quality and usefulness of information routinely provided to researchers and the public by developing standard techniques to exploit data from the WWSSN more fully.

Justification. Earthquakes pose a growing threat to the United States. Because of the increasing urban development, recurrence of any of the Nation's major historical earthquakes would result in much greater damage and loss than was experienced at the time they occurred. Technical advances in the last few years have brought several potential hazard mitigation actions within the realm of possibility. The proposed increase will enable the exploitation of these possibilities. Decisions are being made continuously regarding the location and design of earthquake-sensitive facilities that require knowledge of seismic hazards that is not now available. The Federal Government and other governmental and private groups spend a great deal of money on the relief of earthquake disasters; it is in the national interest, therefore, to seek effective ways to mitigate these disasters.

Mitigating the impact of an earthquake disaster requires social, economic and political actions, especially at State, regional, and local levels. But the extent to which these mitigation actions are effective depends in large measure on the extent to which they are based on factual information. The aim of the proposed program is to provide the required information base through the development of techniques, prototype instrumental capability, and background regional information to meet the common needs of the Federal, State, regional, local, group and individual decision maker.

Cost Factors. Personnel services and benefits for forty (40) positions at an average rate of $22,100, $884,000; other related costs, $566,000; computer usage, $500,000; purchase of equipment and installation, $5,000,000; surveys (trilateration, leveling, gravity, and magnetic), $2,000,000; telemetry, $500,000; research and service contracts, $6,850,000.

(2) Volcano hazards — $+300,000; total, $1,016,000
+1 position ; total, 24

Proposal. The requested increase will be used to accelerate monitoring activities on Mauna Loa by establishing, maintaining, and expanding ground-deformation and seismic networks, and by conducting geologic, geophysical, and geochemical surveys to help determine movement of magma in the reservoir and conduit systems of the volcano. Specifically, monitoring activities on Mauna Loa will be intensified by adding 6 tiltmeters, 6 seismic stations, 12 clusters of prisms for geodimeter surveys and one instrument for temperature-pressure profiling to accompany geodimeter surveys. Geologic, geophysical, and geochemical data will be acquired and interpreted at Mauna Loa in studies of the Kokoolan and Mokuaweoweo Crater quadrangles and in a gas monitoring effort at fuming areas in Mokuaweoweo.

Justification. A major eruption of Mauna Loa Volcano before mid-1978 has been predicted by USGS scientists on the basis of the volcano's past eruptive history and a continuing inflation trend. In the absence of defensive action, this eruption could destroy parts of the city of Hilo depending upon the volume of extruded lava and duration of volcanic activity. The proposed increase will permit collection of data on Mauna Loa vital to the issuance of disaster warnings to responsible officials, as called for under the Federal Disaster Relief Act, and in turn to State and local preparedness action agencies.

Cost Factors. Personnel services and benefits for one (1) position at an average rate of $24,300, $24,300; other related costs, $15,700; purchase of equipment and installation, $100,000; aeromagnetic surveys, $60,000; research contracts and grants, $100,000.

(3) Environmental aspects of energy — $+500,000; total, $7,089,000
+2 positions; total, 113

Proposal. The proposed increase would allow expansion of reactor hazards research directed toward identification and evaluation of geologic processes that pose hazards to nuclear power reactors, and to expedite geologic appraisal of faults and other evidence of crustal movement as potential hazards to reactors in the Eastern United States where rapid increases in the number of operational reactors is anticipated and where evidence of recent faulting has complicated the determination of suitable sites in the region.

Justification. The Federal Government has the responsibility to assure safe, orderly, and efficient development of the Nation's energy resources. This responsibility in regard to nuclear reactors is recognized in the licensing process for nuclear power reactors which is designed to assure safety of the reactor from geologic hazards. The number of reactors in commercial operation or under construction in the Eastern States, now more than 50, is expected to double or quadruple by 1985. The expansion of studies of recent crustal movement, including faulting in the Eastern States, is specifically designed to assist in selection of safe sites in regions where new hazards have been recognized, to expedite the licensing process, and to reduce design and construction costs.

Cost Factors. Personnel services and benefits for two (2) positions at an average rate of $25,175, $50,350; other related costs, $29,650; computer usage, $30,000; gravity surveys, $50,000; drilling and trenching, $100,000; geochemical and isotopic analyses, $40,000; research contracts and grants, $200,000.

(4) Regional mapping and analysis — $-1,500,000; total, $12,892,000
-7 positions; total, 445

Proposal. The decrease reflects redirection of funds to provide geologic, geophysical, and geochemical surveys in support of mineral resource appraisals in areas of high potential for critical mineral commodities.

Justification. Potential mineral shortages require increased emphasis on mineral resource assessment and related studies. The proposed redirection will focus field surveys on mineral resource appraisal and help accomplish objectives of both programs.

(5) Denver fire — $-200,000

Proposal. This funding, made available in fiscal year 1977, was for the one time replacement and repair of items damaged or destroyed in a fire at the Survey's Denver, Colorado facility.

(6) All other programs — No program change; total $1,551,000
No position change; total 40

Program Description

(1) Earthquake hazards reduction — $+16,300,000; total, $28,004,000
+40 positions; total, 280

The goal of the Geological Survey's earthquake hazards reduction program is to mitigate earthquake losses that can occur in many parts of the Nation (see Figure G-1) by providing earth-science data and evaluations essential for land-use planning, engineering design, and emergency preparedness decisions. The three major objectives are: (a) to map and evaluate earthquake hazards, (b) to develop the capability to predict the time, place, and magnitude of earthquakes and to determine the feasibility of modifying or preventing them, and (c) to acquire and disseminate information on earthquake occurrences. On November 13, 1975, the Secretary of Housing and Urban Development redelegated to the Secretary of the Interior the authority and 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). This responsibility was in turn redelegated to the Director, 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 disasters on life and property.

Losses from earthquakes can be greatly reduced by proper engineering design, by wise use of land, and by emergency preparedness actions. Results from the Geological Survey's earthquake investigations will help mitigate the destructive effects of earthquakes by providing national and regional seismic risk maps that indicate expectable values of earthquake frequency and levels of shaking; and maps and evaluations of potential earthquake hazards that can be used by planners to avoid areas of greatest potential danger. Development of geophysical instruments and analytical methods for reliable prediction of earthquakes will contribute substantially to limiting casualties from destructive earthquakes.

Expertise in earthquake studies that exists outside of the Federal Government is utilized through a substantial grants and contracts program with universities, State, regional, and local governmental agencies and private industry.

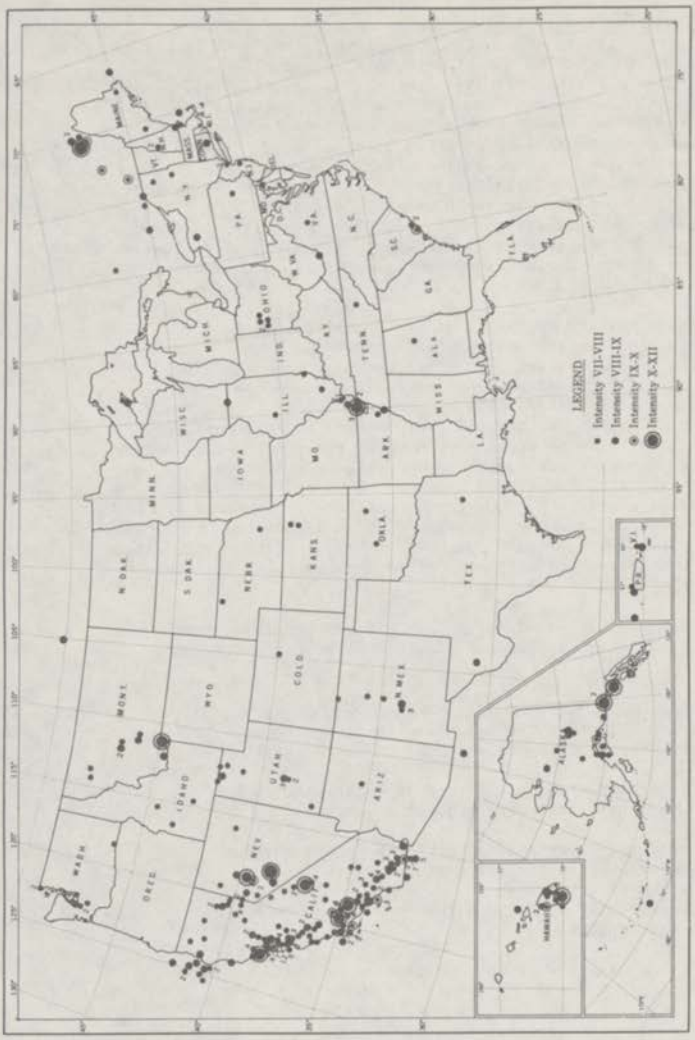


Figure G-1. Intensity and location of known damaging earthquakes in the United States and nearby portions of Canada 1663-1973

83-561 O - 77 - 45

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. The San Francisco Bay region serves as a demonstration area for the development and testing of both scientific techniques and the various types of maps and reports describing and interpreting geographic variations in earthquake hazards. These products 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. In Los Angeles, the Puget Sound area, Anchorage, Salt Lake City, and Reno, studies to provide the basic regional data for similar hazard evaluation have been initiated; analysis and interpretation are in preliminary stages.

Analysis of the geology and tectonics of earthquake-prone regions with respect to seismicity is underway for much of the Nation. In addition to areas in the Western U.S. where the high seismic risk is established on the basis of frequent historic earthquakes, the delineation and evaluation of hazards are being extended to Eastern U.S. urban areas such as St. Louis, Memphis, Charleston, Buffalo and Boston. Evaluation of seismic risk in these Eastern U.S. regions is of concern because, although damaging earthquakes occur with less frequency in the east, their severity is demonstrated by such events as the New Madrid, Mo. (1811 and 1812) and Charleston, S.C. (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 U.S., improved estimates of earthquake vulnerability are expected.

New techniques for evaluation of earthquake hazards and for seismic risk estimation are being developed. Significant advances are being made toward:

- Probabilistic methods for estimating seismic risk, particularly in the Eastern U.S., where the relationship of earthquakes to geologic structure is poorly understood.
- Geologic methods to determine the rate of recurrence of large earthquakes over the last several thousand years.
- Methods for estimating variations in strong ground shaking with variation of source characteristics of the earthquake.
- Methods for identifying landslides that will be reactivated or triggered by earthquakes.
- Methods for predicting the amount and pattern of surface fault displacement.
- Methods for recognizing tectonic conditions under which reservoir filling and draining can induce seismic activity.

Program activities include:

- Intensified effort in the Los Angeles--southern California region and study of an increased number of high seismic risk areas--from 2 in FY 1977 (San Francisco and Los Angeles) to 9 in FY 1978 (Seattle, Salt Lake City, Reno, St. Louis-Memphis, Anchorage, Charleston and Boston)--to produce maps, reports and publications delineating: fault zones along which surface rupturing will occur in future earthquakes; regions underlain by soils susceptible to liquefaction during

earthquake shaking; regions underlain by material susceptible to landsliding during earthquake shaking; and regions where soil conditions will tend to amplify earthquake shaking.

- Additional projects (including grants and contracts) on techniques for estimating seismic risk, strong ground motion and ground failure and faulting potential--from 54 in FY 1977 to above 95 in FY 1978.

- Initiating the first comprehensive study of reservoir-induced seismicity at a level of about 10 man years.

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 because the frequent earthquakes provide field observations and 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.

Intensive studies are underway in the area of the southern California uplift, an extensive area of land that has risen about a foot during the last 18 years (see Figure G-2). Such an uplift could be an earthquake precursor. Instruments are operating and surveys are being conducted to monitor anomalies that could both warn of increased hazards in the Los Angeles region and explain the nature of the uplift phenomenon. In addition, evaluations are underway to predict the potential effects of a great earthquake in the uplift area. Consequently, a core element of the proposed program is to continue monitoring and evaluation of the southern California uplift to recognize anomalies that may indicate increased earthquake threat in the region. Funds for the uplift studies support a wide variety of activities including: installation and operation of seismographs, tiltmeters, magnetometers, strainmeters, water well monitors and electrical resistivity arrays; surveys of land elevation, horizontal land deformation and the gravity and magnetic field; theoretical and numerical modelling of the uplift; evaluation of possible geologic effects of a major or great earthquake in the uplift area; and study of socioeconomic problems associated with an earthquake 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.

Like weather forecasting, earthquake prediction will probably be achieved gradually, with predictions being more reliable in some regions than others and with general reliability gradually improving. The ultimate technical milestone--the achievement of earthquake prediction--therefore, is a target that cannot be precisely scheduled. Many scientists judge that observations are needed, with a dense network of comprehensive instrumentation, for about 10 earthquakes with a magnitude of 5 or larger, as an adequate data base for establishing a sound basis for prediction. Acquisition of these observations is a specific goal for earthquake prediction efforts. The rate of precursor observation is directly related to the number of instruments deployed and the level of earthquake activity in the area monitored. Taking these factors into account, the time needed to observe the earthquakes at the proposed program level is estimated to be about 8-10 years.

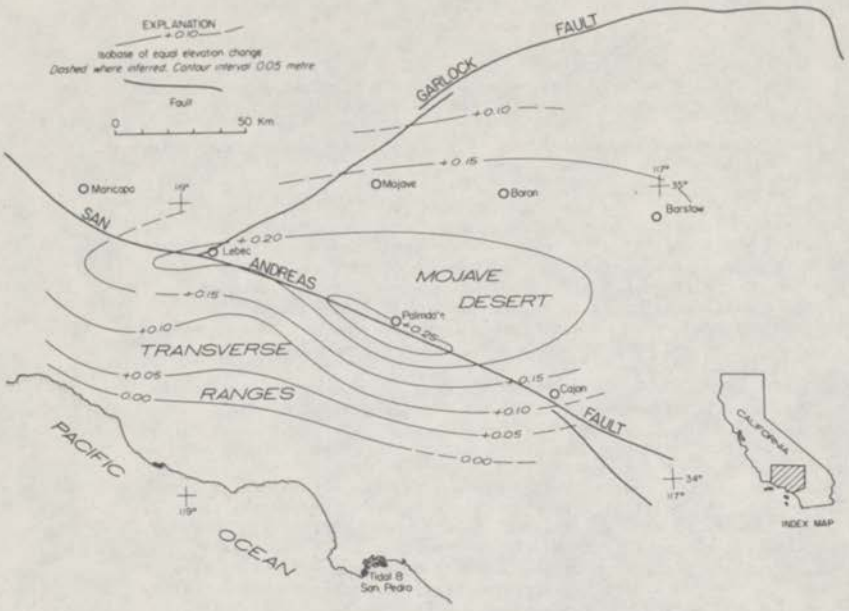


Figure G-2. Minimum uplift in the Tranverse Ranges and adjacent parts of the Mojave Desert, California, during the period 1959-74.

Specific activities on which the proposed program will focus are the following:

- Upgrade earthquake prediction instrumentation in the San Francisco Bay region by installing deformation monitoring instruments and undertaking geophysical surveys.

- Expand studies of several types of earthquake precursors that are presently not studied at all or only to a very limited extent, including water well fluctuations and geochemical, electrical and magnetic variations, and unusual animal behavior.

- Deploy networks of instrumentation for earthquake prediction in areas of high seismicity outside California including Puget Sound, southern Alaska, western Nevada, and Utah-Montana-Wyoming and in areas of unique seismicity to accelerate rate of observation of earthquake precursors.

- Establish a computer and telecommunications capability to process data and monitor for earthquake precursors in real time (to make timely prediction a possibility) and conduct analytical studies of earthquake processes.

- Expand field and laboratory studies, and develop and test hypotheses concerning the physics of the earthquake process and precursory phenomena.

- Develop and improve instruments for field use that show significant promise of detecting earthquake precursors, including laser-ranging instruments and sensitive strain instruments.

- Determine the physical behavior of rocks near rupture, and model earthquake processes in the laboratory with specific application to earthquake prediction.

The existing U.S. program has progressed significantly. Reliable instruments for detecting most suspected precursors have been developed, tested, and deployed in small prototype arrays. Real-time and automatic data processing techniques have been developed. Hypotheses as to the nature of the earthquake source and the cause of precursors have been developed and partially tested in the laboratory. Now that this groundwork has been laid, expansion of the national effort can be undertaken efficiently. An increase in network operations can be effectively carried out by available contractors. A significant number of highly qualified seismologists and geophysicists are available to work on this effort now that the level of research on the problems of detection and discrimination of nuclear explosions is declining.

Program activities will make possible:

- Reduced time to observe 10 earthquakes of magnitude 5.0 or greater with a dense instrument network, which is a necessary step toward achieving earthquake prediction, from about 25 years to 8 to 10 years.

- Increased number of areas with substantial prediction instrumentation from 2 in FY 1977 (central and southern California) to 6 in FY 1978 (Nevada, Utah-Montana-Wyoming, Alaska, Puget Sound).

- Prediction studies in at least 2 areas characterized by unusual patterns of seismicity or that provide special opportunities to detect precursors, including the Eastern U.S.

- o Upgraded capability to monitor seismic data in real time (utilizing a computer) from 100 stations in FY 1977 to 500 stations in FY 1978.

- o Increased land deformation surveys from 50 kilometers of leveling in FY 1977 to 500 kilometers in FY 1978 in areas of high seismicity (mainly western U.S., but including some areas in the east as well.)

- o Increased projects (including grants and contracts) on techniques of earthquake prediction from 50 in FY 1977 to 150 in FY 1978. Phenomena to be evaluated include: time and space variations in seismicity; variations in seismic velocity and earthquake source mechanisms; long and short term changes in the rate of crustal deformation; changes in water well level, electric resistivity, magnetic field, geochemical properties of ground water and animal behavior; and properties of crustal rocks at and near failure.

c. Data and information services--the National Earthquake Information Service locates and rapidly evaluates important earthquakes worldwide, provides data support for the Tsunami Warning System, and acquires basic data that are critical for seismic risk appraisal. Products include weekly, monthly, quarterly and annual reports on earthquake activity; maps of earthquake distribution; and information services to the public, news media, and government agencies. Regional seismic networks monitor earthquake activity for identification and delineation of active faults. Upgrading of these monitoring systems is being accomplished by addition of telemetry links and by increased computer processing of data. The Worldwide Standardized Seismograph Network (WWSSN) monitors earthquakes worldwide and provides data to government, universities, and private researchers. Data from the WWSSN are used in studies of plate tectonics where they provided one of the key elements in the development of the basic theory. Research is carried out on the internal structure of the earth as it relates to the problem of locating earthquakes.

Program activities include:

- o Expanded support of WWSSN from the 31 domestic stations currently supported to 116 stations including all foreign stations.

- o Repair of stations where data quality is poor due to lack of recent maintenance.

- o Maintenance visits to WWSSN stations at a level of 2 man years.

- o Increased research studies to improve quality of services provided by NEIS from 5 projects in FY 1977 to 10 projects in FY 1978.

(2) Volcano hazards — $+300,000; total,$1,016,000
+1 position; total,24

The principal objective of the volcano hazards program is to develop knowledge and understanding of volcanoes and volcanic processes so that warnings can be given to Government, Civil Defense, and Disaster Relief officials of impending volcanic eruptions and volcano-related hazards, such as mudflows, stream blockages, and forest fires. Although the program is primarily focused on the Island of Hawaii, where the lives and property of 40,000 people are threatened by volcanic eruption, considerable attention is also directed toward volcanoes of the Cascade Range in the Pacific Northwest.

On the Island of Hawaii, personnel of the Hawaiian Volcano Observatory acquire and interpret geologic, geophysical, geochemical, and hydrologic data at Kilauea Volcano, which has been almost continuously active during the past seven years, and at Mauna Loa Volcano, which vigorously erupted

in July 1975, for the first time in 25 years. Major activities in addition to the monitoring of seismicity and ground deformation, include assistance in DOD studies of the feasibility of the safe usage of explosive bombs as an emergency means of diverting lava flows from potentially destructive paths, investigations of historic flow directions of lavas, analyses of the subsurface distribution of magma (molten rock) using geophysical techniques, and determinations of the cooling rates of lava lakes. Increased attention will be focused on the northeast rift zone of Mauna Loa, the most likely region of future eruption, and the south flank of Kilauea, the site of the Kalapana destructive earthquake of November 29, 1975.

Among the recent accomplishments of the program are: (a) prediction of a major eruption of Mauna Loa Volcano before mid-1978 based on analyses of the volcano's past eruptive history and continuing inflation trend; (b) determination that the increased thermal activity at Mount Baker in the Cascade Range has not signalled an impending major eruption despite the continuing danger of avalanches and mudflows; (c) assessment of the seismic, volcanic, and tsunami activity associated with the Kalapana earthquake of November 29, 1975, the largest in Hawaii since 1868; (d) preliminary evaluation of the effectiveness of using bombs to divert lava flows, including site selection, photographic analysis, and ground observations of cratering effects; (e) establishment of a precisely measured triangle linking Mauna Kea, Mauna Loa, and Hualalai Volcanoes to provide baselines for long term, large scale crustal changes of the Hawaiian Island Chain; (f) provision of expertise in monitoring eruptive activity at Cotopaxi Volcano, Ecuador, and Soufriere Volcano, Guadeloupe; and (g) preparation of a national overview map of volcano hazards.

Program Output	FY 1977	FY 1978
Volcano hazards mapping (km^2)	1,000	1,000
Monitoring seismograph stations	42	50
Monitoring tilt stations	34	60
Monitoring geodimeter lines	130	300
Publications	30	40

(3) Environmental aspects of energy — $+500,000; total, $7,089,000
+2 positions; total, 113

The objective of this program is to expedite safe, orderly, efficient, and environmentally sound development of the Nation's solid fuel energy resources by providing critical information on environmental geologic influences, constraints, and hazards.

a. Reactor Hazards Research — $+500,000; total, $3,643,000
+2 positions; total, 48

This program element is aimed at identifying and evaluating geologic processes and events that pose a hazard to nuclear reactors and determining the regional distribution, frequency, and severity of such hazards. National overview maps at a scale of 1:7,500,000 have already been prepared to show active faults, landslide hazards, hazards of cavern collapse, stream flow sufficient for reactor cooling, surficial geology, and geologic setting of existing and planned reactors. Similar maps are in preparation showing swelling clays, engineering geology, and types of bedrock.

Investigations of geologic processes that bear on the siting of nuclear power reactors will include studies of the age of fault movement along the Atlantic seaboard, California, Washington, Arizona, Missouri, and Kentucky; subsidence related to ground water withdrawal in California, Nevada, Arizona, and the Gulf Coast; and volcanic hazards in the Pacific Northwest. In addition, investigations will be continued on methods of dating and determining recurrence intervals of catastrophic geologic events, on mechanisms of catastrophic

rock avalanches, on crustal movements within the North American tectonic plate, on seismic ground motion, and on stored rock stresses that may pose hazards to reactors.

Reactor hazards research increasingly emphasizes the Eastern United States, reflecting their increasing reliance on nuclear power (Figure G-3). Initial studies of newly discovered faulting in Georgia and Virginia suggest that such faulting may be much more recent and much more extensive than previously recognized. New evidence of recent faulting has been discovered along the Sierra Nevada foothills in California, and offshore California. Improved techniques of dating young deposits (and therefore fault or other catastrophic movements) are being developed on the California coast, the Rocky Mountain region, and the southwestern states.

The information developed by this program is vital to the utility industry in the investigation and selection of reactor sites, and to the Nuclear Regulatory Commission in the review and licensing of sites. The knowledge and expertise developed greatly enhances the Geological Survey's efficiency and effectiveness in advising the NRC on the adequacy of geologic and seismic studies of individual sites submitted by applicants during the licensing process. Much of the information, including the overview maps, also have wide application to problems of siting other major installations such as fossil fuel plants, pipelines, and tanker ports.

b. Energy Lands Research — No program change; total, $3,446,000
No position change; total, 65

This program element focuses on environmental geologic aspects of accelerated development and production of solid fuels in order to evaluate and minimize hazards and adverse impacts.

Investigations include stability of highwalls and spoil banks, effects of mining on rates and products of weathering and erosion, subsidence hazards over deep-mined coal beds, safe mine-waste storage and disposal, engineering properties of surficial materials, and distribution of toxic trace elements in coal and oil shale and their overburden. Studies include those aimed at determining the reclamation potential of stripmined land and the relative efficiency, safety, and environmental consequences of surface and underground mining. Maps are also being prepared showing predicted land configuration and drainage changes after surface mining. A dynamic computer model of the interrelationships between land, coal, water, and urbanization in the northern Great Plains designed to explore various development scenarios is being tested. National overview maps (scale 1:7,500,000) are being prepared showing distribution of strip mines and strippable coal, planned and existing coal-fired power plants, and distribution of limestone suitable for sulfur dioxide air scrubbing.

Studies under the program are concentrated in the Rocky Mountain and Northern Great Plains States (Figure G-3), where there are extensive tracts of strippable coal that face imminent large-scale development, and where serious environmental and legal questions exist that will require major policy decisions and court tests. Studies are also being carried out in the Midwest and Appalachia where there are special problems of conflicting land use, land reclamation, and spoil bank hazards.

The data generated by this program is essential to the formulation of Federal and State policy on resource development (including the Department's Coal Leasing program), to the preparation of Environmental Impact Statements, to local and State land-use planning, and as a guide to Federal and State legislation.

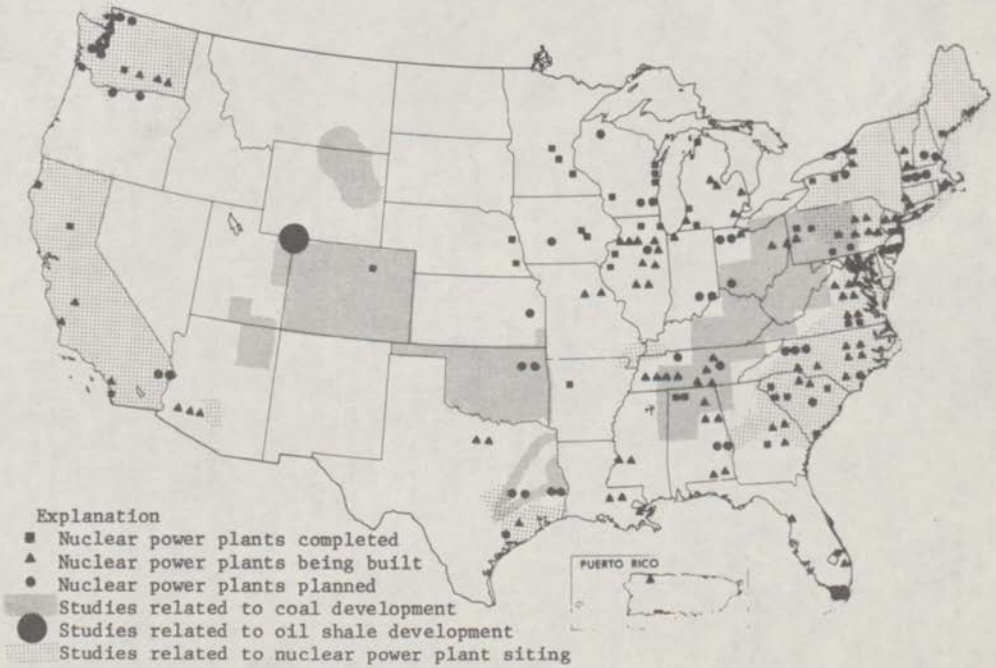


Figure G-3. Map of locations of research projects related to environmental aspects of energy resource development.

Program Output	FY 1977	FY 1978
Reactor Hazards Research Program:		
Number of research projects	35	40
Research grants	2	2
Geotechnical reports	22	40
National overview maps	7	3
Other geotechnical maps	10	30
Energy Lands Research Program:		
Number of research projects	14	14
Research grants	3	3
National overview maps	—	3
Other geotechnical maps and reports	5	7

(4) Arctic environmental studies — No program change; total, $414,000
No position change; total, 5

The objectives of the Arctic Environmental Studies program are to collect and synthesize seismic, geologic, and engineering geologic data needed in planning and designing engineering structures in oil and gas transportation corridors in Alaska, and for preparation of environmental impact statements required for energy resource development in the State. An important goal of the program is to provide information that will minimize adverse effects of engineering projects on the Arctic and subarctic environment.

To achieve these objectives, data are being obtained on the character, distribution, and engineering properties of surficial deposits and on the seismicity, permafrost, and glacial geology along proposed major transportation corridors, including the route of the trans-Alaska oil pipeline, the prime Arctic gas pipeline route that extends along the Arctic Coastal Plain from Prudhoe Bay to Canada, the gas pipeline route between Fairbanks and the Canadian border, and the Fairbanks to Anchorage transportation corridor. Studies along the Fairbanks-Anchorage route will contribute to the planning of Alaska's new capital city, which will be constructed in this corridor area. Project objectives related to the trans-Alaska oil pipeline are being achieved by studying problems that arose during pipeline construction in order to determine the relation of the problems to geologic conditions and processes. These studies will form the basis for predicting possible problems in other areas being considered for construction projects.

Accomplishments include completion of surficial-engineering geology maps of the entire prime Arctic gas pipeline route, one third of the proposed gas pipeline route from Fairbanks to the Canadian border, and two 1:250,000-scale quadrangles in the Brooks Range, where studies in support of investigations for the trans-Alaska oil pipeline are underway. Other accomplishments include entry into a newly designed computer storage and retrieval system of geotechnical data obtained from construction of about one third of the trans-Alaska oil pipeline, and completion of an exchange program with Soviet scientists and engineers on pipeline, permafrost, and environmental problems.

Program Output	FY 1977	FY 1978
Surficial engineering-geologic maps completed	3	3

(5) Engineering geology — No program change; total, $1,137,000
No position change; total, 35

The objectives of the engineering geology program are to:

1) Reduce the threats to life and property posed by geologic hazards (other than earthquakes and volcanic eruptions) through identification, investigation, and monitoring of hazardous geologic processes, and

2) Increase the safety, economy, and efficiency of design of engineering works through investigation of geologic principles and processes that significantly affect engineering behavior of the ground.

Under the Federal Disaster Relief Act and subsequent redelegation of responsibility, the Geological Survey is charged with issuing disaster warnings to responsible officials for an "earthquake, volcanic eruption, landslide, mudslide, or other geologic catastrophe." The Engineering Geology program is vital to developing the knowledge and expertise needed to exercise this responsibility with respect to hazards other than those addressed by the Volcano Hazards and Earthquake Hazards Reduction Programs.

Recent activities and accomplishments include:

- Completion and publication of a preliminary overview map of the conterminous 48 states showing incidence of landslides as a first step in assessing the magnitude of the hazards posed by landslides (see Figure G-4), and revision of a classification of landslides and slope movements for use by engineers and others involved with landslide hazards.

- Investigation of ground response to seismic shaking with special reference to earthquake triggered landslides in support of the Earthquake Hazards Reduction Program. In this connection, field studies were made of slope failure related to the 1976 Guatemala earthquake.

- Participation in the Department's investigation of the causes of the failure of the Teton Dam, Idaho, including monitoring exploratory excavations in the dam abutment.

Activities for FY 1978 will include:

- Completion of the first half of a comprehensive inventory and evaluation of existing information and current research on landslide causes and techniques of landslide prediction.

- Completion of initial studies of high energy rockfall avalanches and earthquake triggering of landslides.

- Completion of engineering geologic studies of Boston, Salt Lake City, and Palo Alto and beginning of coordinated geotechnical studies in at least two other urban areas in order to gain expertise and develop techniques for more effective application of engineering geology to urban problems.

- Continuation of research in rock and soil mechanics as a key to understanding geologic processes significant to engineering practice, with special attention to *in situ* measurements of engineering properties of large volumes of geologic materials and the incorporation of results in engineering geologic maps.

Program Output	FY 1977	FY 1978
Basic research projects	21	18
Urban engineering geologic maps and reports	5	4
Geotechnical reports and maps	6	5
Research reports on landslides	4	6

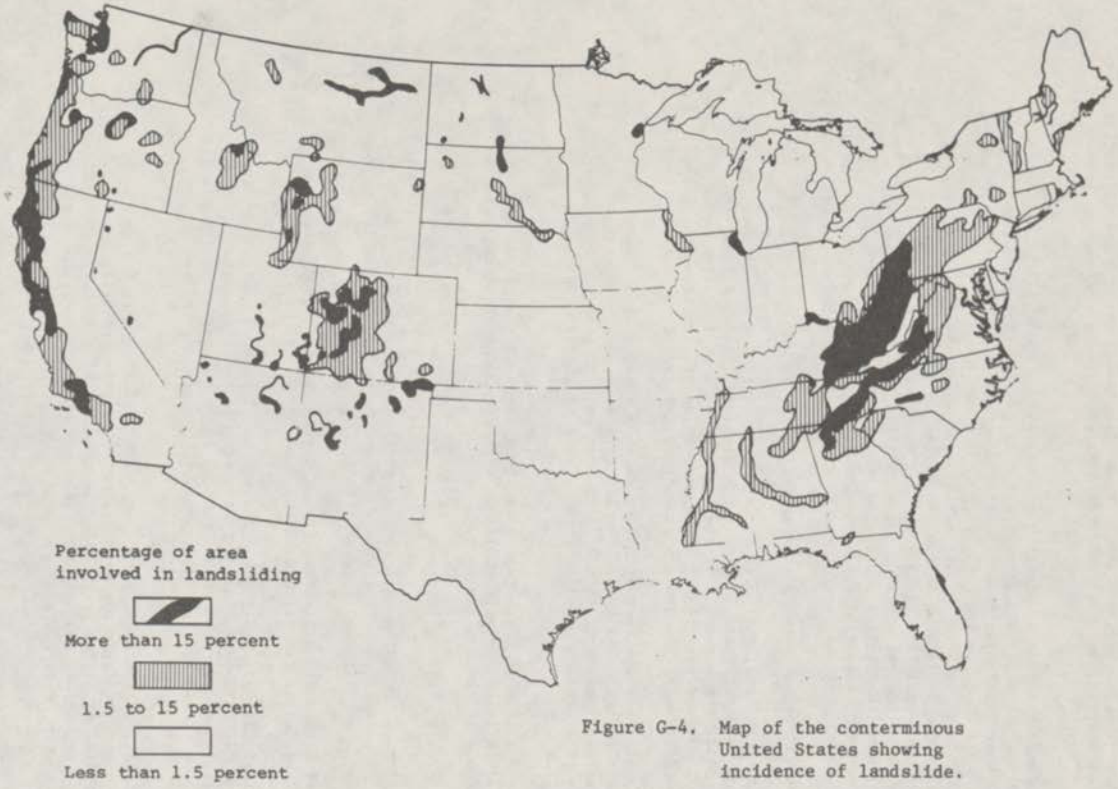


Figure G-4. Map of the conterminous United States showing incidence of landslide.

(6) Regional mapping and analysis — $-1,500,000; total, $12,892,000
-7 positions; total, 445

The objective of this program is to increase and refine fundamental knowledge of the geologic framework of the Nation to support the Survey's mission-oriented earth science research programs. In addition to the direct support of mission-oriented programs, the knowledge these investigations provide and the unique expertise they develop are absolutely essential to the continued ability of the Survey to respond quickly and effectively to unforeseen needs for earth science information and advice, and to encourage the states to cooperate formally and informally in meeting the National need for earth science information. The program comprises three elements: (1) surveys to determine the distribution and properties of rocks and other geologic materials; (2) investigations of the relative and absolute ages of earth materials; and (3) investigations of the fundamental geologic processes responsible for the formation, modification and distribution of the materials within the earth and at the surface.

a. Geologic, geophysical, and geochemical surveys — $-1,500,000; total, $7,432,000
-7 positions; total, 269

These surveys are designed to develop knowledge of the distribution, depth, thickness, and physical and chemical properties of rocks and surficial materials that is vital to identification of geologic hazards and the recognition of areas of high potential for mineral and energy resources. Although much of the data generated by the surveys are recorded on maps, the preparation of maps is not the only objective of this program element. Efforts are being increasingly focused on multidisciplinary investigations of fundamental regional or topical geologic problems that are critical to mission programs. Examples are given in Table 1.

The geophysical maps produced by this program element provide invaluable baseline data against which to compare local gravity and magnetic anomalies associated with geologic structures which may control mineral or energy resource accumulations or potential hazards. The geochemical maps provide similar baselines against which to compare natural geochemical anomalies associated with mineral deposits or man-made chemical anomalies produced by pollution of air or groundwater. The geologic maps produced by this program are particularly important as multipurpose syntheses of the current knowledge of the geology of the areas studied. They are the most frequently requested sources of information for a wide variety of practical uses for resource exploration, as baselines against which to compare new information and interpretations of the geologic framework of the areas, and as benchmarks to which to tie additional mapping carried on under other Geological Survey programs and by other Federal and State agencies to meet their own special needs.

Recent activities and accomplishments include:

- Recognition that prior to major disruption by faulting, four parallel belts of rocks formed in Mesozoic time along the Pacific continental margin by collision between North America and adjacent sea-floor tectonic plates. This has an important bearing on interpretation of geology of the entire west coast from Baja California to southern Alaska because it permits reassembly of tectonic blocks and determination of the amount and direction of major fault movement over the past 30 to 40 million years.

- Development of an hypothesis that relates young volcanoes and faults in Idaho, Nevada, Utah, and Wyoming, and western Oregon to a "hot spot" in the earth's mantle and lower crust which is producing extension in the North American plate.

Table 1. Some major geologic framework problems and their practical significance

Scientific Problem	Areas	Major National Problems Impacted
I History of plate interactions along Pacific margin of North American plate	Al., Ore., Wash., Cal.	Earthquake and landslide hazards reduction Geothermal resources Potential geologic hazards to reactors Oil and gas off- and onshore energy resources
II Deformation history of the Cordillera and its relation to the Pacific margin	Al., Id., Mont., Wyo., Colo., Nev., Utah, N.M., Ariz.	Earthquake and landslide hazards reduction Geothermal resources Mineral resources Radioactive waste management Oil and gas resources Coal resources
III Geodynamic behavior of the central continental interior and the development of the upper Mississippi	Ohio, Ind., Ill., Ky., Mo., Tenn., Ark.	Earthquake and landslide hazards reduction Mineral resources Potential geologic hazards to reactors Radioactive waste management
IV Deformation and geodynamic history of eastern North America and the Atlantic Continental margin	Me., Vt., N.H., Mass., R.I., Conn., N.Y., N.J., Pa., Del., Md., Va., N.C., S.C., Ga., Ala., Fla., Tenn., P.R.	Mineral resources Energy resources (esp. offshore oil and gas) Potential geologic hazards to reactors Radioactive waste management Coal resources
V History and patterns of natural climatic changes as a basis for predicting future changes and their effects	Nationwide and worldwide	Environmental impacts of energy development Radioactive waste management Food production Land-use planning Energy use
VI Processes by which trace elements are released to the environment by weathering of rocks and minerals, and distribution of these elements in rocks, waters, soils, and plants	Nationwide and worldwide	Environmental impact of energy development Radioactive waste management Mineral resources - geochemical prospecting Environmental impact evaluation Food production Environmental health hazards

- Publication of a modern analysis of the tectonic history of southwestern New England and development of the interpretation of the bends in the Appalachian Mountain chain as related to opening of the early Atlantic Ocean 600 to 800 million years ago.

- Recently released geologic maps showing the distribution and geometry of faulted and folded strata are guiding the search for oil and gas in the newest Rocky Mountain exploration frontier, the Idaho-Wyoming thrust fault belt.

Other studies that will continue under this program element are:

- Compilation of a surficial geologic map of the conterminous 48 states at a scale of 1:2,500,000 to complement the recently published bedrock geologic map.

- Compilation of a bedrock geologic map of Alaska at a scale of 1:2,500,000.

- Preparation of a geologic map of Wyoming at a scale of 1:500,000, of Kentucky and Massachusetts at a scale of 1:250,000, and of Puerto Rico at a scale of 1:125,000.

- Paleomagnetic studies of sedimentary and igneous rocks to determine the direction, intensity, and configuration of the magnetic field through geologic time as an aid in defining past movements of crustal plates, and measurements of properties of the present-day geomagnetic field at designated observatories to serve as control for regional magnetic surveys and to help understand processes in the Earth's upper mantle.

b. Dating and correlation of geologic units	No program change; total, $4,326,000 No position change; total, 144

Accurate dating and correlation of geologic units is essential to nearly all mission-oriented and problem-oriented geologic research carried out by the Geological Survey. Research carried out under this program element is aimed at developing and improving techniques of determining the absolute ages (in years) of rocks and minerals and the ages of sedimentary strata relative to one another and to standard reference sections throughout the world. Absolute dating techniques based on radioactive decay allow determination of the date of emplacement of igneous bodies and ore deposits, and the timing of episodes of mountain building, rock deformation and alteration. Determinations of the relative ages of sedimentary strata based on detailed studies of fossils allow precise correlation of sedimentary strata over broad regions and determination of the types of environments in which they were deposited. This information is critical for location of oil and gas resources both off- and onshore, and determination of regional extent of coal, uranium, and other mineral deposits. Combinations of absolute and relative dating are essential to the determination of the history of occurrence of earthquakes, volcanic eruptions, and landslides and hence to evaluation of the hazards they pose. They can also provide a valuable baseline against which to measure recent environmental changes. For this reason special emphasis is being given to development of more precise techniques of dating and correlating relatively young deposits.

Significant recent accomplishments include:

- Development of a new method of petroleum exploration in which the color of certain fossils (conodonts) is used as an indicator of the degree to which sedimentary rocks have been heated.

- Determination that widely distributed glacial deposits (moraines) in the Yellowstone Park area are much older than previously thought (120,000 to 130,000 years instead of 10,000 to 20,000 years) on the basis of the recently developed volcanic glass (obsidian) hydration techniques. This has an important bearing on the glacial history of the Rocky Mountains and on the determination of the age of faults, volcanic eruptions and landslides.

- Refined understanding of the stratigraphic framework of the Atlantic coastal plain, including timing of delta-building and advances and retreats of the shoreline. This will have a major impact on the search for oil and gas on the Atlantic OCS.

- Determination of the age of a diamond-bearing rock in southern Wyoming, using nuclear chemical methods. This information is valuable in determining the origin of the rock and providing clues for locating similar deposits.

- Use of chemical age-determination techniques to show the extent of ancient crystalline rocks known in the Lake Superior region.

c. Basic geologic processes — No program change; total, $1,134,000
No position change; total, 32

The revolutionary discovery that the Earth's crust is a system of moving and colliding plates is leading to new approaches to predicting earthquake and volcano eruption events, prospecting for mineral and fossil fuel deposits, and solving problems about the physical and chemical constitution of the Earth's interior. Studies directed toward understanding this system of plates are being conducted in the Sierra Nevada with special attention given to the formation of mineral deposits in granitic terrains. Investigations of volcanic fields in the Western United States are providing insights pertinent to hazards posed by future eruptions in that area. Basic mineralogic studies are yielding data for interpreting the origin and deposition of mineral deposits.

Recent accomplishments of this program include:

- Recognition of the influence of lava viscosity on the stoppage of a volcanic eruption--of use in assessing potential volcano hazards.

- Determination of the origin of the extensive lava flows of the Columbia River plateau and of the depth within the earth at which the lava formed. This provides valuable understanding of volcanic processes and clues to evaluating volcanic hazards and the origin of some mineral deposits.

- Recognition of post-consolidation deformation of granitic bodies in the western foothills of the Sierra Nevada--of use in understanding the formation of mineral and energy resources.

Program Output	FY 1977	FY 1978
Semi-detailed geologic mapping	60,000 km^2	55,000 km^2
Detailed geologic mapping	10,000 km^2	4,300 km^2
Geophysical mapping (gravity and magnetic)	400,000 km^2	350,000 km^2
Topical studies and basic research projects	60	55
Geologic and geophysical maps published or open-filed	125	70
Geologic reports published or open-filed	115	100
Paleontologic stratigraphic reports	36	30
Paleontologic service reports	650	600
Geochronologic reports	15,000	15,000

(7) Denver fire $-200,000

B. Mineral Resource Surveys

FY 1977, $24,175,000; FY 1978, $25,800,000; increase, $+1,625,000

Major Program Changes

(1) Mineral lands assessments $+3,300,000; total,$11,360,000
+18 positions; total,178

Proposal. The increase is requested for the Wilderness and Conterminous States mineral surveys program elements.

a. Wilderness mineral surveys $+1,300,000; total,$2,640,000
+11 positions; total,43

Proposal. The funds requested will permit the rate of mineral assessment of lands proposed for Wilderness designation to be doubled from FY 1977 (0.7 million acres) to a level of 1.5 million acres in FY 1978. In FY 1977, 14 reports will be published and 15 Wilderness areas will be under study. In FY 1978, 28 reports will be published.

Justification. The Geological Survey and the Bureau of Mines are jointly responsible for assessing the mineral potential of wilderness and proposed wilderness lands. Federal lands originally designated for inclusion in the Wilderness System must be assessed for their mineral potential by 1983 as prescribed by the Wilderness Act of 1964 (Public Law 88-577). In addition, certain wilderness study areas added subsequent to the 1964 Act must be surveyed for their mineral potential by 1978, 1980, and 1981 as prescribed by Public Laws 93-622, 94-557, and 94-567. The requested increase in funding is necessary to complete the additional mineral surveys required before 1981 and 1983, and will allow some areas to be completed that have been proposed for inclusion in the Wilderness system.

Cost Factors. Personnel services and benefits for eleven (11) positions at an average rate of $22,850, $251,350; other related costs, $148,650; equipment, $50,000; aeromagnetic and other geophysical surveys, $250,000; use of helicopters, $200,000; geochemical surveys and chemical analyses, $200 000; research contracts and grants, $200,000.

c. Conterminous States mineral surveys $+2,000,000; total,$3,941,000
+7 positions; total,68

Proposal. Mineral resource data and its interpretation in terms of the potential for discovery of mineral resources are urgently needed for many Federal, State, and industry decisions. Technology is available to provide a comprehensive resource data base from which existing mineral resource data can be retrieved, updated, and new information added. The requested increase of funds will provide the basis for

83-561 O - 77 - 46

implementing a mineral resource assessment program in the conterminous States that will provide the data reservoir outlined above. The program will be multidiscipline in scope, employing on-the-ground and satellite reconnaissance geologic, geochemical, and geophysical data for the resource assessment of 2° 1:250,000-scale quadrangles in selected areas having a high mineral resource potential. From these areas, all existing resource information will be compiled, evaluated, and intermeshed with newly collected information to provide a data base of 2° quadrangles similar to and patterned after the Alaska Mineral Resource Assessment Program.

During FY 1978 geologic, geochemical, and geophysical work will proceed on 12 1:250,000-scale quadrangles in areas selected as having a high potential for mineral resources critical for future national needs.

Justification. The States, Federal Government and the public are increasingly concerned that land utilization decisions be made with consideration of mineral resource values. Decisions requiring this knowledge are and will continue to be made in the conterminous States, where no systematic and comprehensive resource data reservoir exists. The extensive Federal lands that are being classified and administered by the Executive Branch and Congress and extensive non-Federally owned areas require a comparable basis for organizing information on mineral resource potential in a way that can be used by laymen as well as experts. Federal lands of which one-half are in the conterminous States have not been adequately surveyed on a systematic basis. In addition, lower grade and bedded ores have not been properly assessed or exploited, nor has the eastern two-thirds of the Nation (mostly non-Federal lands) been adequately examined. The factor of increasingly uncertain availability in times of critical need of certain commodities from foreign, especially unstable sources, demand a knowledge of the domestic resource potential of these materials. Until recently, computer and geoscience research and technology were not sufficiently advanced to handle large amounts of data effectively, but now it has become possible for sophisticated techniques to be utilized in resource assessments. Of the $2.0 million increase, $1.5 million represents funds redirected from the Regional Mapping and Analysis program to provide geologic and geophysical support for mineral resource assessment activities in the conterminous States program. The redirected funds permit an integration of both programs so the objectives of each can be accomplished.

Cost Factors. Personnel services and benefits for seven (7) positions at an average rate of $24,825, $173,775; other related costs, $101,225; equipment, $200,000; aeromagnetic and other geophysical surveys, $700,000; geochemical surveys and chemical analyses, $525,000; research contracts and grants, $300,000.

(2) Denver Fire $-1,675,000

Proposal. This funding, made available in fiscal year 1977, was for the one time replacement and repair of items damaged or destroyed in a fire at the Survey's Denver, Colorado facility.

(3) All other programs No program change; total, $14,440,000
No position change; total, 421

Program Description

(1) Mineral lands assessments — $+3,300,000; total, $11,360,000
+18 positions; total, 178

a. Wilderness mineral surveys — $+1,300,000; total, $2,640,000
+11 positions; total, 43

The mineral resource assessment of lands proposed for wilderness designation has two objectives: (1) to provide facts for prudent land-use decisions to land-managing agencies, the President, the Congress, and the public in designating wilderness areas; and (2) to provide basic information for assessing the national endowment of mineral resources on Federal lands.

Resource surveys of lands proposed for inclusion in the National Wilderness Preservation System are made in cooperation with the Bureau of Mines through a program of 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 metals, industrial minerals, coal, oil and gas, and geothermal energy. Mineral surveys of National Forest lands will continue to be the principal program activity.

By the end of FY 1977, 17.0 million acres will have been surveyed and 23.6 million acres will remain to be studied. Deadlines set by Congress require that 0.8 million acres must be surveyed by 1981, and 6.8 million acres of wilderness lands originally designated by the 1964 Wilderness Act must be surveyed by 1983. Of the remaining 16.0 million acres of western Forest study areas and Interior lands that have been proposed for inclusion in the Wilderness system, 0.2 million acres will be completed by 1983; 15.8 million acres will remain to be surveyed beyond 1983.

Program Output	1965-1976	FY 1977	FY 1978
Mineral surveys(acres)	16.3 million	0.7 million	1.5 million
Published reports	75	14	28

b. Alaska — No program change; total, $4,552,000
No position change; total, 62

The Alaska Mineral Resource Assessment Program evaluates Alaska's mineral endowment, identifies areas where increased mineral resources can be anticipated, furnishes mineral resource information for long-range national minerals policy planning, and supplies information for forthcoming Congressional decisions on the use of Alaskan lands. The program provides a rapid assessment of mineral resource potential, using currently available data, systematic reconnaissance, geologic, geochemical, and geophysical mapping techniques, remote sensing methods, and computerized storage and analysis of resource data. Assessments are published in 1:250,000-scale quadrangle folios that include a text and geologic, geochemical, geophysical, and interpretive mineral resource maps. An immediate objective of the program is to provide by early calendar year 1978 substantive resource assessments of D-2 lands specified in the Alaska Native Claims Settlement Act.

By the end of FY 1977 mineral assessments of three 1:250,000-scale quadrangles (12.7 million acres) will be published, each as a Circular and a folio of 12 or more maps. Field and office studies of seven other quadrangles (20.6 million acres of land area) are scheduled for completion by the end of FY 1977, and in FY 1978 six additional quadrangles will be completed and nine other quadrangles will be under study (Figure G-5).

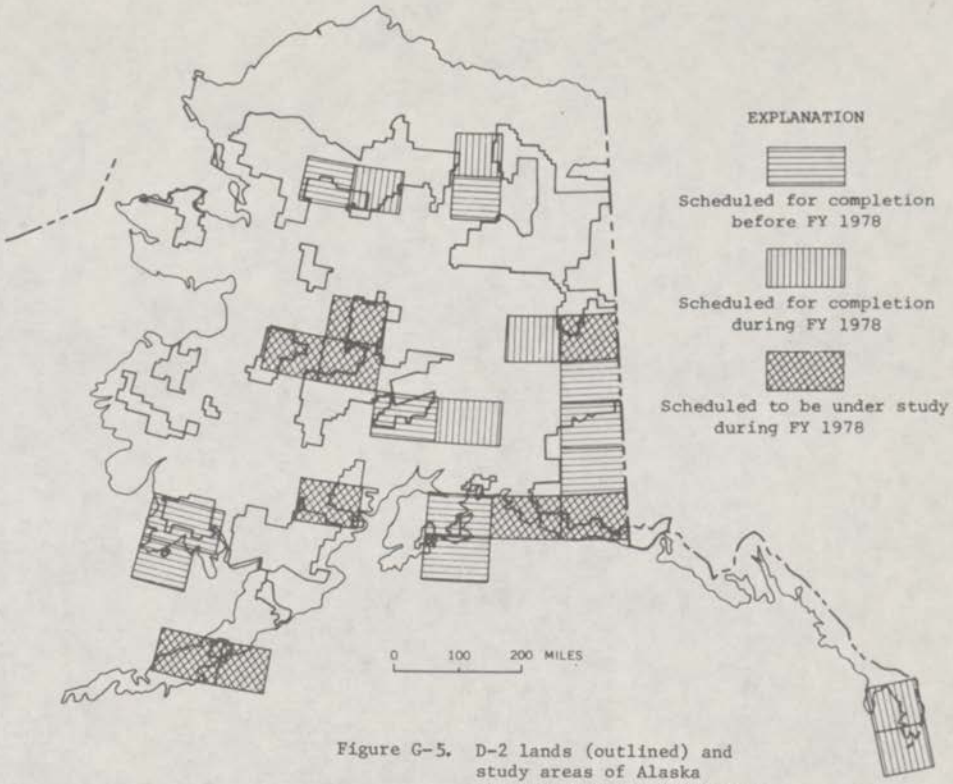


Figure G-5. D-2 lands (outlined) and study areas of Alaska Mineral Resource Assessment Program.

Program Output	FY 1977	FY 1978
Area mapped	15 million acres	15 million acres
Area under study	44 million acres	44 million acres

c. Conterminous States — $+2,000,000; total, $3,941,000
+7 positions; total, 68

The principal goal of the conterminous U.S. Mineral Resource Assessment Program is to provide a mineral resource data reservoir acquired from the lower 48 States that can be used by State and Federal Government agencies, the Congress, and the public for policy decisions on management, on land-use planning and environmental impact, and on resource availability. Emphasis is on evaluation of resources in areas comprising significant amounts of Federal lands and on lands where urbanization is encroaching on areas containing potential mineral deposits.

The major thrust of the program is refocused from on-going geologic, geochemical, and geophysical investigations, toward the innovative 2° quadrangle work developed and tested in the Alaska Mineral Resource Assessment program. Multidisciplinary techniques, utilizing on-the-ground and remote-sensing geologic, geochemical, and geophysical methods will be employed to assess the mineral resources of selected 2° 1:250,000-scale quadrangles that have a high potential for mineral resources required for accelerating needs of the Nation's economy. Newly focused objectives of the program are to: (1) Develop a systematic, multidisciplinary, rapid reconnaissance scan of resource information at a level of accuracy and representation necessary to provide for credible resource decision-making. This includes an examination of all pertinent existing data and filling in of information gaps by means of field examinations and satellite imagery interpretation. (2) Produce data atlases and interpretive maps at 1:250,000-scale that present inforamtion graphically and in plain language for use by the decision makers and interested public. (3) Computerize data for future retrievability and updating--and possible reanalysis based on future technology development. (4) Produce special summary assessment reports. (5) Provide a documented basis for the identification of specific areas requiring more detailed examination to characterize special resource values, and for elimination from further consideration of those areas of low to insignificant resource potential. (6) Produce interpretive maps that make use of the existing data base to determine resource potential and resource development possibilities.

Recent program accomplishments include: (1) Publication of a map showing potential for copper mineralization in the Tucson, Arizona urban area. This map adds to previous Survey mineral resource studies that provide state and local agencies with information for land-use planning. (2) Publication of a map outlining the occurrence of the scarce platinum-group metals in the Medford-Coos Bay, Oregon 2° quadrangle. (3) Geophysical gravity maps in southwest New Mexico indicating that potential ore-bearing structures unexpectedly persist beneath a cover of volcanic rocks. The alignment of fluoride mineralization and thermal springs in the area support this interpretation. (4) Aeromagnetic and aeroradioactivity surveys over the southeastern Coastal Plains suggesting the presence of local placer-type concentrations of important heavy minerals in six areas. These may be favorable targets for titanium and thorium exploration. (5) Geophysical studies in Montana identifying a buried horizon of high electrical conductivity in rocks which may be associated with ore deposits. (6) Studying Landsat images for lineaments, structural zones, and hydrothermal alteration of rocks and soils that have proven effective in focusing attention on potential ore-bearing areas in Alaska, Arizona, Nevada, and several other regions.

Program Output	FY 1977	FY 1978
Integrated resource assessments (acres)	--	5 million
Geologic compilation (acres)	16 million	20 million
Geologic mapping (acres)	1 million	5 million
Geophysical mapping (acres)	3.7 million	10 million
Gravity stations	50	120
Reports and maps	93	204

d. Mineral Discovery Loan Program (MDLP) — No program change; total, $227,000
No position change; total, 5

Federal assistance to small private businesses for the exploration of deposits of 36 eligible minerals is conducted under the Minerals Discovery Loan Program, as prescribed by Public Law 85-701. No new funds have been made available since 1974 for the awarding of contracts; however, the Geological Survey administers continuing contracts and monitors contracts in production that have royalty payment obligations. Also administered by the program are royalty obligations remaining from the predecessor DMEA Program. There have been 56 certified discoveries to date valued at $175 million.

(2) Mineral commodities assessments — No program change; total, $2,220,000
No position change; total, 64

a. Critical minerals commodities — No program change; total, $1,604,000
No position change; total, 44

The objective of this program is the collection of worldwide data on the geologic occurrence and availability of mineral commodities and the development of new geologic concepts useful both in the assessment of resources and exploration for mineral deposits. Information on location, quantity, quality, and geology of certain mineral commodities are analyzed by specialists. Investigations of such important commodities as aluminum, titanium, platinum, chromium, copper, the borates, lithium, iron, mercury, molybdenum, phosphates, zeolites, and zinc will be continued. New studies of nickel, cobalt, and manganese are being initiated. Major activities of the program are to: (1) Construct, maintain, and enlarge world commodity resource files and make periodic estimates or availability status reports. (2) Synthesize and apply new concepts for the identification of new domestic, foreign, and marine sources of these mineral commodities. (3) Provide basic data for the resource information system to be used by decision makers.

Accomplishments and recent output of this program include the steady accumulation of data in computerized files, 19 published reports, and brief summaries of the world resource of each commodity published in the Bureau of Mines Commodity Data Summaries. Highlights include: (1) Iron resources of the Marquette Range, Michigan, were estimated with the aid of a computer program that calculates for the user the number of tons of iron-formation having specified limits of grade, mineralogy, grain-size, thickness, and depth below the surface. (2) Fluorspar districts in the Rocky Mountain Region were correlated with a large rift zone extending from Mexico to Canada, thus drawing attention to the potential of this zone for undiscovered deposits. (3) The geologic character, age, and origin of kaolin ball-clay and fire-clay deposits in the United States were described. (4) A comparison of high-alumina chromite resources and world consumption rates indicated that by 1985, refractory chromite producers will have to compete with metallurgical producers for supplies of chromite. (5) A recent study

based on current domestic reserves, identified resources and projected production, indicatesthat by the year 2000 primary copper production will satisfy about one half of the most probable annual U.S. primary demand. The balance of demand will have to be met by new discoveries or increased imports. (6) A compilation of data on the mineral and water resources of the State of Wisconsin was prepared. (7) Recent studies of drill core from the Brady Glacier nickel-copper deposits in Alaska have revealed important amounts of platinum-group metals.

b. Minerals for energy production — No program change; total, $616,000
No position change; total, 20

Certain minerals are essential for energy production. In order for the Nation to reach maximum energy self-sufficiency in the next one to two decades, major attention must be given to these minerals. Toward this end, the program will focus on determining the type, quantity, and availability of non-fuel minerals needed by the present and anticipated energy industry to construct development and production facilities and transportation networks. Resources and reserves of these minerals must be balanced with predicted energy and non-energy needs to determine the effects on United States capability to achieve needed energy production goals. If certain minerals required for energy production become in short supply, substitutes or alternate resources must be found. For example, aluminum is expected to become in high demand in the energy industry. The United States is dependent on foreign sources of aluminum to a significant degree. Therefore, new sources of aluminum are being sought in large but unmeasured deposits of high-alumina clay in the southeastern U.S. Barite is also extremely important to petroleum production. In spite of the fact that the United States is self-sufficient in barite, anticipated high petroleum demand could surpass production capacity and therefore place considerable pressure on domestic resources. Other commodities also critical to energy production being studied include alunite, chromium, copper, nickel, and tin.

The major accomplishments of this program to date are: (1) The publication of Professional Paper 1006-A and B, Demand and Supply for Non-Fuel Minerals and Materials for the United States Energy Industry, 1975-90--A Preliminary Report; (2) Computer generated contour maps showing aluminous clay resources in the Andersonville District, Georgia; and (3) An analysis of tonnage-grade relationships of nickel deposits and a new estimate of world nickel resources.

(3) Mineral information systems and resource analysis — No program change; total, $2,090,000
No position change; total, 31

The program provides readily accessible mineral resource information and analyses to government, industry, the public, and to Geological Survey mineral specialists. The Geological Survey is assembling resource information into a Computerized Resource Information Bank (CRIB) and designing a Decision Oriented Resource Information System (DORIS). Resource entries will continue to be added to CRIB from Geological Survey sources and through cooperative arrangements with State and other Federal agencies. Data from foreign sources are being acquired through cooperative agreements with Peru, Bolivia, Canada, and Department of State Resource Attachés. The evaluation and testing of computer software will concentrate on increasing the ease and speed of retrieving the resource information.

The Decision Oriented Resource Information System will provide estimates of the quantity and quality of resources that will be available as a result of different policy options. Decision oriented resource analysis capabilities are being developed to assess four major factors

that affect the availability of resources: (1) geologic availability; (2) technological availability; (3) economic availability; and (4) alternate sources of supply. These capabilities are being developed through research on quantitative resource occurrence models, models of the exploration process, mineral economics models, and gathering of resource data. Systems design and software development in progress will allow users without computer experience to use the system. Update procedures, along with retrieval and display capabilities, are provided in the software being developed. This program will provide direct support to National minerals policy decisions.

Major program accomplishments include: (1) marked expansion of the CRIB system domestic data base, assisted by expanded cooperative arrangements with State and Federal agencies such as U.S. Bureau of Mines, TVA, and Forest Service; (2) acquisition of international data for CRIB through cooperative agreements with Peru, Bolivia, Mexico, and Canada, and Department of State reporting channels--approximately 10,000 entries during the year; (3) expansion of the map plotting capability of CRIB to interactive computers; (4) increased availability of the entire CRIB file via a publicly available computer timeshare network; and (5) development of mineral resource models for use in predicting undiscovered deposits with emphasis currently on lead, zinc, chromium, and nickel; (6) mathematical integration of geologic, geochemical, geophysical, and remote sensing data to assist in the location of mineral deposits; and (7) development of a computerized resource assessment program that is applied to estimating the mineral resource potential of Alaska.

Program Output	FY 1976	FY 1977	FY 1978
Data entries into CRIB			
Federal	7,400	12,000	12,000
State	2,200	3,100	8,000
Foreign	10,000	11,000	6,000
Total	19,600	26,100	26,000
Derivative Products			
Retrievals	200	350	425
Maps produced	80	100	150
Tabulations/Special reports	30	60	100
DORIS			
Reports	10	10	8

(4) Resource processes research — No program change; total, $5,822,000
No position change; total, 183

The objectives of the Resource Processes Research program are to develop new scientific theory and concepts to improve the assessment and discovery of the Nation's mineral resources. The program provides basic research data to meet the needs of other mission programs for locating and evaluating new sources of mineral commodities. To accomplish these objectives, the program seeks to understand under what conditions various kinds of mineral deposits are formed through field and laboratory investigation of known mining districts, studies of mineral provinces, and examination of new types of mineral environments.

Principal activities of the program include: (1) Geologic, geophysical, and geochemical field investigations in areas that have a high potential for new and conventional types of mineral deposits; (2) study of ore deposition controls of known mineral deposits to guide the discovery and assessment of new mineral deposits in other areas; (3) study of the trace element distribution of selected mineral deposits in order to develop an understanding of the parent materials from which ore deposits are formed;

and (4) laboratory studies of the chemical and physical properties of ores and their enclosing rocks.

Recent program accomplishments include: (1) Geologic mapping near Tucson, Arizona, points to a particular type of intrusive rock as the source for base metal deposits there; (2) geologic studies and rock-age determinations in the Cordero mining district of Nevada and Oregon show that fractures formed by the collapse of a volcanic center was the control for the deposition of mercury ore; (3) geologic and mineralogic studies at Kennecott, Alaska, suggest that the copper deposits there formed in playa-type sedimentary rocks; (4) certain coal beds in Illinois have been found to contain substantial amounts of zinc in the mineral sphalerite which potentially can increase U.S. zinc production by as much as 25 percent; and (5) studies of inclusions in zinc ore at Creede, Colorado, indicate that the deposit was formed in a complex system, understanding of which can provide a guide to locating extensions of the deposit.

Program Output	FY 1977	FY 1978
Area mapped	250,000 acres	250,000 acres
Geochemical analyses	1,200	1,200
Reports published	120	120

(5) Resource techniques in geochemistry and geophysics — No program change; total, $4,308,000
No position change; total, 143

Surface high-grade mineral deposits are being rapidly depleted. In order for the Nation to maintain a viable economy, State, Federal, and industry attention must turn to the discovery and development of increasingly scarce surface deposits and deposits buried at depth. To help meet these needs, this program develops and tests new geochemical and geophysical methods that will permit the future discovery and evaluation of concealed surface and subsurface, low- and high-grade deposits that so far have escaped detection. The program will continue to provide essential analytical support for the Wilderness and Alaska mineral resource assessment programs. Investigations of the geochemical cycle and its influence on the distribution of ore-associated elements in various geologic environments include the development and testing of new methods of geochemical analysis and detection. New geophysical systems being developed and tested include a new electromagnetic survey detector, a geologic-type radar system, and improved drill-hole sensors for use in detecting mineralized zones of rock; three-dimensional computer methods for interpreting geophysical data are being developed.

Program highlights and recent accomplishments include: (1) Reconnaissance geochemical surveys in rugged mountainous areas of Alaska have shown that heavy mineral concentrates, secondary manganese-iron oxide, and organic-rich materials are effective sample media to test stream drainage headwater areas of 5 to 13 square kilometers. (2) Oxalic acid leachates of rocks, soils, and stream sediments in arid climates of the Southwest are very effective in detecting faint leakage from mineral terrains underlying volcanic rocks. (3) Twenty-three elements in drill cores and cuttings from the Kalamazoo, Arizona, porphyry copper deposit, delineate five geochemical zones spatially related to the ore deposit. The outermost sulfur and selenium zone extends at least 1,000 meters suggesting

that concealed deposits can be detected at the surface even though buried at depth. (4) Computer techniques using data on the Coeur d'Alene district, Idaho, demonstrate that several volatile elements (antimony, arsenic, sulfur, tellurium, cadmium, and lead) formed geochemical halos around the rock that intruded a pre-existing mineral belt. Production data show that 85 percent of the Coeur d'Alene ores were derived from the halo area but that only one half of the halo area has thus far been prospected. (5) Analysis of soil and rock samples from northeastern Minnesota show a 29-km-long linear nickel-copper anomaly within the Duluth gabbro. (6) New spectrographic methods to determine trace elements in oxalic acid leachates. Quantitative method for determining phosphorus oxide, and a new procedure to determine trace elements in manganese oxides, iron oxides, sulfides, and silicates are among recent advancements in geochemical research. (7) A rock physics laboratory has been established to make experimental and theoretical studies of electric, diaelectric, and the elastic properties of rocks and soils to understand better the physical processes involved in the formation of mineral deposits.

Program Output	FY 1977	FY 1978
Research and development projects -		
Geochemical reports	28	28
Geophysical reports	40	40
Instruments and instrument modifications under development	15	15
Analytical support for other programs		
Spectrographic analyses	32,000	32,000
Other chemical analyses	125,000	125,000
Analyses of physical properties	400	400

(6) Denver fire $-1,675,000

C. Energy Resource Surveys

FY 1977, $26,138,000; FY 1978, $27,938,000; increase $1,800,000

Major Program Changes

(1) Federal coal leasing exploration $+2,000,000; total, $2,000,000
+2 positions; total, 2

Proposal. The increase is needed to begin a program of scientific exploration for coal on Federal lands that have a high potential for leasing. The work plans include an intensive inventory of current knowledge about the quantity, quality, and location of the coal resources on these lands. This inventory will identify areas within the Federal coal lands away from surface outcrops, where subsurface information is scarce and where the resources of potentially minable coal beds cannot be studied without exploratory work. Within these areas, core drilling and geophysical studies will be initiated to obtain data that will demonstrate variations in coal bed thickness, changes in the coal chemistry and the physical properties of the coal.

The data generated from this exploration program will be entered into the National Coal Resource Data System for prompt retrieval in the formats required by Federal and State agencies, industry, and the interested public.

Justification. This program provides a needed operational increment to the Geological Survey's exploration plan as part of the Department's response to the Federal Coal Leasing Amendments Act of 1975. The exploration plan is designed to gather, analyze, interpret, and disseminate coal resource data and environmental understanding on all Federal coal lands subject to the Act.

The physical and chemical properties of coal beds are not always persistent, either throughout the thickness of a bed or laterally from one geographic location to another. With many possible end uses for coal, such as metallurgical coke, steam coal, and coal for conversion to oil or gas, it is critical to identify coal resources of the proper quality for a specific end use before large capital expenditures are committed to extraction and transportation.

Cost Factors. Personnel services and benefits for two (2) positions at an average rate of $25,175, $50,350; other related costs, $29,650; core drilling, $1,420,000; chemical analyses, $300,000; computer usage, $200,000.

(2) Denver fire — $-200,000

Proposal. This funding, made available in fiscal year 1977, was for the one time replacement and repair of items damaged or destroyed in a fire at the Survey's Denver, Colorado, facility.

(3) All other programs — No program change; total, $25,938,000
No position change; total, 440

Program Description

(1) Coal resource investigations — $+2,000,000; total, $5,127,000
+2 positions; total, 81

The Geological Survey's program of coal resource investigations is divided into three components: resource assessments, including geologic field and laboratory studies; the National Coal Resources Data System; and Federal Coal Leasing Exploration.

a. Resource assessments — No program change; total, $2,619,000
No position change; total, 74

The principal goal of coal resource assessment studies is to expand and improve information about the physical and chemical characteristics of the Nation's major coal deposits, in cooperation with the geological surveys of the coal-bearing states, and to make these data available to Federal and State governmental agencies, to industry, and the concerned public.

The current emphasis in these studies is on Federally owned coal in the Western States and on low-sulfur coal in the central Appalachian basin.

The work consists of collecting and analyzing coal samples to determine the physical and chemical characteristics of these coal resources; conducting local and regional geologic studies to determine the precise location, physical availability, and variation in quantity and quality of the coal, as an aid in planning for the best use of specific coals, considering both energy and environmental concerns; developing geological methods for mapping and analyzing coal beds, using seismic, magnetic, sonar, and bore-hole techniques; and obtaining information about those geologic phenomena that might affect the selection of mine sites, mining methods, and coal cleaning processes. All these data are entered in the National Coal Resources Data System.

In FY 1978, the coal resources in about 1,000 square miles of Federally owned land in the Western States and in about 500 square miles in the Eastern States will be assessed. An additional 3,000 square miles of western coal lands will be assessed in connection with planning and verification of procedures for the Government's coal leasing program. The

physical, chemical, and petrographic characteristics; major, minor, and trace elements; sulfur, ash, and mineral content; heat value, and rank of more than 2,000 coal samples will be determined, to supplement nearly 3,000 samples already collected and analyzed. This work is to be done in cooperation with and contributory to, programs of BLM, BM, EPA, ERDA, and at least 27 State geological surveys. Other related studies involve regional stratigraphic and resource analyses on Federal and private lands in the west and in the mid-Appalachian states, and investigation of peat-bearing sediments in the Florida Everglades and in the Mississippi River delta. In addition, research on geophysical techniques, including sonar, seismic, magnetic, and gravimetric measurements, and bore-hole logging for coal resource assessments, will be continued.

b. National coal resources data system (NCRDS)	No program change; total,$508,000 No position change; total,5

The objective of the National Coal Resources Data System (NCRDS) is to develop and operate a computer-based information system which can accept and process a wide variety of data related to the quantity and quality of the Nation's coal resources and which, through automatic data processing techniques, can quickly reappraise these resources as additional resource data become available. A second goal is to create a system capability to retrieve and reformat coal resource information in the form of charts, maps, and reports, to meet the requirements of the Federal Coal Leasing Amendments Act of 1975 and other Federal and State programs.

The NCRDS is being established in two phases. Phase one consists of aggregated data on coal resources, derived from existing non-computerized resource files. These data are being used to generate assessments of coal quantity by state or region, but they cannot be used to provide detailed assessments of coal quality. Phase two, now being implemented, consists of disaggregated or point-source data derived from mines, core holes, and outcrops and includes measurements such as bed thickness, depth of burial, sulfur, ash and trace metals, moisture, and heating value. The point-source data file will be able to yield computer-drawn resource maps, as well as resource assessment reports. The data for phase two of NCRDS are being gathered with the cooperation of the geological surveys of the 38 coal-bearing states. As part of a cooperative program with the International Energy Agency (IEA), coal resource data is being processed for the NCRDS and the 16 member nations of IEA.

To make the NCRDS more responsive to the requirements of its users, it is planned that the data files will be placed on a nationwide computer time-sharing system. Government-industry user groups will be organized to ensure maximum program coordination. Computer-operated graphic-display equipment will be installed to increase the system capability for graphic display. About 50,000 additional data entries for the phase two file and about 2,000 for the IEA file will greatly increase the utility of the system. About 50 computer-generated maps and reports will be produced.

c. Federal coal leasing exploration	$+2,000,000; total,$2,000,000 +2 positions; total,2

The objective of the Federal coal leasing exploration program is to develop information about the coal resources and environmental geology of coal lands subject to the Federal Coal Leasing Amendments Act of 1975. The work to be done under this program is directed toward an assessment of the quality and quantity of coal recoverable by both deep and shallow mining operations and a determination of the environmental effects of its extraction. Field investigations will be concentrated on coal lands distant from coal-bed outcrops, where the currently available data are inadequate for leasing decisions.

Exploration activities will consist primarily of core drilling, geophysical studies, and geochemical analyses of coal samples and coal-related rocks. The core drilling will provide information about the number and thickness of coal beds, their depth of burial, and will produce samples for analysis. Geophysical exploration will indicate the continuity and correlation of coal beds in the subsurface and the information on coal quality, derived from geochemical analyses, will be useful in planning for the best use of the coal. The results of this work also will help in evaluating the effects of coal mining on the environment. The data obtained from the coal exploration program will be entered and stored in the National Coal Resources Data System, from which they can be retrieved in a variety of formats to meet the needs of Federal and State agencies, industry, and the public.

(2) Onshore oil and gas resource investigations	No program change; total,$5,445,000 No position change; total,97

The three principal objectives of onshore oil and gas resource investigations are: 1) to provide continuously updated, credible and scientifically based oil and gas resource assessments; 2) to continually improve the methodology for oil and gas resource assessment through research on the origin, migration, entrapment, and detection of hydrocarbons; and 3) to undertake research related to petroleum exploration technology. Resource assessment studies are undertaken to appraise the oil and gas resources of the United States, in support of efficient and timely development of these resources. The results of these studies are made available to government planners, the petroleum industry, and the public. Research directed toward improving resource assessment methodology is necessary to ensure that new estimates of the Nation's petroleum resources are as accurate and comprehensive as possible and that they reflect variable economic as well as geologic conditions. Projects related to exploration technology are intended to gain new knowledge that will improve the success rate of exploratory drilling. A related program activity is the development of a physical properties data bank, in which selected irreplaceable well cores can be preserved, cataloged, and made available for public examination.

The work to be accomplished in FY 1978 to meet these objectives includes a continuation of studies of oil and gas field-size,distribution and hydrocarbon analysis of selected basins; an update and expansion of publicly available data on the amount and geographic distribution of hydrocarbon; development of an improved methodology for estimating resources; future oil and gas finding rates for different regions of the U.S. which will be of immediate use to FEA; and basin classification studies and analogue basin analysis. The oil and gas resources of 14 frontier provinces in Alaska will be appraised, and the resources of 13 hydrocarbon provinces in the mid-continent region will be reappraised. Studies will be conducted on reservoir sands in the Rocky Mountain region, and approximately 700 geochemical and microscopic analyses of source rocks and reservoir rocks will be made to identify those rocks that have generated oil and gas or that have characteristics favorable for accumulation of oil and gas in commercial quantities. In addition, research will be conducted on seismic methods of detecting potential stratigraphic traps for oil and gas and on the direct detection of hydrocarbons using a helium detector and other methods. About 40 wells will be logged with a bore-hole gravimeter in support of investigation of unconventional hydrocarbon reservoir rocks such as fractured shale and tight gas sands.

The results of these onshore oil and gas research investigations are disseminated to government, industry, and the concerned public, and integrated with other geologic investigations, such as the offshore oil and gas program. Approximately 190 petroleum research and resource reports will be released in FY 1978.

(3) Oil shale resource investigations — No program change; total, $1,157,000
No position change, total, 23

Oil shale investigations are conducted to assess the Nation's resources of oil shale, particularly the rich and extensive deposits in the Piceance Creek and Uinta basins of Colorado, Utah, and Wyoming (Figure G-6). The work involves geologic mapping, geophysical studies, core drilling, and geochemical and mineralogical analyses of samples.

The areal extent of oil shale deposits and the nature and thickness of their overburden are determined by surface mapping and related geological and geophysical studies. Core drilling provides information about the subsurface distribution of these deposits, and analysis of core samples for their oil yield identifies the richest oil shale zones. Because certain sodium-aluminum minerals commonly found in the richer oil shale deposits may have either a potential economic value or a harmful effect on retorting processes, mineralogic studies and computer modeling are undertaken to determine the amount and distribution of these minerals.

About 6,250 oil shale samples obtained from core drilling will be analyzed in FY 1978 to determine their oil yield and mineral content. The core drilling, totaling about 7,500 feet, will be done primarily in the Piceance Creek basin. Surface mapping and related geological studies will encompass about 385 square miles in the Uinta basin. These field and laboratory studies will generate about 12 maps and reports on the oil shale resources in these two basins.

(4) Uranium/thorium resource assessment — No program change; total, $5,115,000
No position change; total, 96

The objective of this program is to develop and make publicly available information about the occurrence of uranium and thorium that will help the mining industry find new ore deposits. Research is currently focused on frontier resource areas, where large but low-grade deposits of uranium may be present. Other studies included in the program are designed to improve geochemical and geophysical exploration techniques, to determine the sources and depositional environments of uranium and thorium ores, and to provide detailed geologic maps of selected mining districts. Figure G-7 shows the geographical extent of this program. All parts of the uranium/thorium program are closely coordinated with related programs conducted by ERDA. Local or regional uranium and thorium resource assessments by the Geological Survey are made available to ERDA for inclusion in its periodic national uranium/thorium resource assessments reports.

Deposits of highgrade uranium ore are limited and are deemed insufficient to meet the anticipated long-term demand for nuclear fuel. The GS program, therefore, gives much attention to the identification of larger but lower-grade deposits that are amenable to low-cost mass mining and to the investigation of frontier uranium districts, including areas in the Eastern United States and in Alaska.

Detailed geologic mapping related to uranium exploration will cover about 700 square miles in FY 1978, and reconnaissance geologic mapping will cover an additional 2,000 square miles. As a part of this work, about 1,500 samples will be collected on which about 15,000 analytical determinations will be made in support of research on geochemical exploration methods. Most of the samples will be of stream waters and associated sediments, spring waters and associated precipitates, and organic material in streams and lakes.

Geophysical surveys will be conducted in FY 1978 to support the development of new and improved uranium exploration methods. About two-thirds of this work will involve non-radiometric surveys. Surface magnetic, electromagnetic,

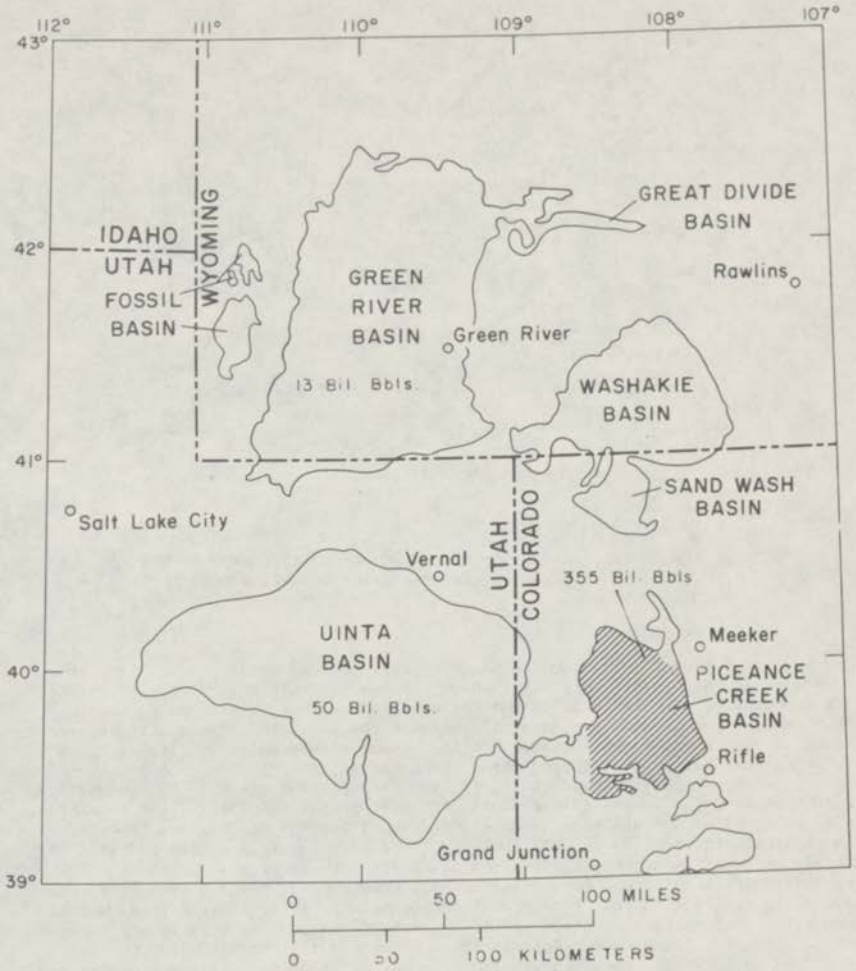


Figure G-6 . Map of areas underlain by Green River oil shale (75 percent of the U. S. Geological Survey oil-shale resource appraisal program is in the patterned area that contains 85 percent of the 30 gallon per ton of rock resource, equal to 355 billion barrels of oil).

Figure G-7. Areas where uranium and thorium exploration research investigations are being conducted.

and gravity surveys, in single and joint arrays, will be conducted in six states to establish geophysical values for known uranium deposits and to provide guides for exploration. A new aerial gamma-ray spectrometry system will be tested in surveys totaling about 300 square miles, and a truck-mounted system will be used in surveys totaling about 200 square miles. Remote sensing techniques will use computer-enhanced Landsat images for pattern recognition of uranium deposits in an area of about 80,000 square miles in Utah and adjacent states. In conjunction with this study, all available geologic and geophysical information for that area will be compiled and analyzed in an effort to develop new exploration targets. Geophysical measurements in drill holes will be made in three states and will be supplemented by petrophysical study of about 300 core samples. A nuclear-activated drill-hole tool for making in-hole uranium analyses has been developed and tested and will be put into operational use in FY 1978. This device, which can detect and measure as little as 1/100 percent uranium, is a necessary tool for discovering large low-grade deposits. Other new instruments under development and to be field tested in FY 1978 make use of radon for uranium exploration.

The local and regional uranium resource assessments resulting from all this work will be released to the public in about 60 resource maps and reports and will be transmitted to ERDA in support of its national uranium resource assessment studies.

(5) Geothermal investigations — No program change; total, $9,611,000
No position change; total, 140

The principal objective of the geothermal investigations program is to understand the factors that control the nature and distribution of geothermal

resources in the United States, providing the basis for estimating the magnitude and location of these resources as an aid in the development of a national energy policy. Outputs of the program serve as a guide to private industry and other geothermal resource developers in their efforts to explore for these resources. The main elements 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 contents; (b) exploration technology, including development of instrumentation techniques and data interpretation methods; (c) regional assessment and national inventory, including acquisition, reduction, interpretation, and computer storage of the magnitude and location of geothermal resources on a regional and national basis; (d) subsurface environmental impact, including assessment of induced seismic activity, land subsidence, and changes in groundwater quality or flow which may occur as a result of fluid withdrawal or reinjection; 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 reinjected. A part of the program provides for grants and contracts to academic institutions, commercial industries, and other governmental agencies for geothermal investigations which supplement the in-house effort. Much information derived from the program is used for classification and evaluation of Federal and Indian lands prior to competitive leasing. The program of the Geological Survey is designed to be complementary with that of the Energy Research and Development Administration and is reviewed by the Interagency Geothermal Advisory Council.

Current activities of the program include: (a) geothermal reconnaissance studies in Idaho, Oregon, Alaska, California, Arizona, and Texas; (b) resource characterization studies of 3 California, 1 Idaho, 1 Wyoming, and 1 Arizona geothermal systems; (c) development of tools and technology for use in electrical, electromagnetic, heat flow, and remote sensing surveys; (d) studies of the chemistry of geothermal waters and thermodynamic properties of minerals and fluids in geothermal systems with application to potential problems of plugging of reservoir rocks or sides of well holes; (e) hydrologic studies of hot water systems in Nevada, Oregon, Utah, Montana, and selected areas of the Appalachian Mountains; (f) land subsidence and earthquake incidence studies in the Imperial Valley, California, and Raft River area, Idaho; and (g) radiometric dating of young volcanic rocks as a guide to magmatic geothermal potential in Oregon, Idaho, New Mexico, Nevada, and California.

Recent accomplishments of the program include: (a) discovery of the prospect of hot dry rock east of San Francisco Mountain based on geologic mapping of the San Francisco volcanic field, Arizona; (b) use of geothermometers and measured subsurface temperatures to estimate true salinities of formation water samples from geopressured zones in Texas; (c) determination based on geologic mapping and hydrologic investigations that a major fault zone south of the Clear Lake geothermal area, California, may be a major control on the undetermined northeastern extent of the Geysers geothermal field; (d) updating of the geothermal computer data file (GEOTHERM) to include the U.S. hot springs file and geothermal field data from New Zealand, Mexico, and El Salvador; (e) indication by potassium-argon dating that volcanic rocks in southwestern Utah are young, suggesting that the thermal anomaly at Roosevelt Hot Springs has an extensive magmatic (molten rock) source; (f) determination, based on flow testing, that 2 deep geothermal wells at Raft River, Idaho, are producing from a common aquifer in a large and productive geothermal reservoir; (g) discovery, using electrical surveying techniques, of zones of high electrical conductivity beneath the Snake River Plain, Idaho, thought to be caused by regions of high temperature; (h) determination based on geologic mapping that the volcano at Mt. Shasta, California, consists of 4 separate but overlapping cones, the youngest

83-561 O - 77 - 47

of which indicates a higher geothermal potential for this volcanic system than previously believed; and (i) correlation of high microearthquake activity in the vicinity of the Healdsburg fault in California with geothermal development at The Geysers.

Program Outputs	FY 1977	FY 1978
Reconnaissance mapping (km^2)	5,000	5,000
Geothermal areas studied	10	11
Geothermal systems modelled	3	4
Radiometric and isotopic determinations	150	165
Publications	75	85

(6) Energy resource data systems — No program change; total,$1,483,000
No position change; total,5

The goal of this program is to make available current and accurate information on U.S. energy resources to Federal and State planners, energy-related industries, the scientific community, and the concerned public. The information must be provided quickly, in a variety of formats, and at minimal cost. The first phase of development,now essentially completed, has consisted of building computer-based files of energy resource data obtained from government, industry, and university sources. The system includes aggregated data for oil, gas, oil shale, and uranium and thorium. Data files for coal and geothermal energy are also being developed but under other programs.

The aggregated data files assembled as the first phase of the system already are being employed to answer users' requests for energy resource information. At the same time, work is underway to develop files of disaggregated or point-source data derived from the study of individual oil or gas wells, drill holes, mines, and outcrops. The disaggregated data files are needed to make local and regional resource assessments and computer-generated resource maps.

In order to avoid duplication of effort and to disseminate information about the energy resource data systems to all potential users, other Governmental agencies and the public are kept informed about the status of the files. This is done through interagency information councils and coordinating committees, Government-industry information user groups, progress reports, and press releases.

The work planned for FY 1978 is intended to make these systems more responsive to users' needs. In particular, all files will be placed in a nationwide computer time-sharing program (as is now the case with the petroleum data system), and the formation of additional user groups will be encouraged to ensure maximum program coordination. Plans call for the addition of a graphic-display capability to all files, and for continued data acquisition and file building, Additional data will be obtained through cooperative agreements with other Government agencies and with industry. A computer-generated oil and gas map of North America, planned for FY 1978, may well serve as a model for other energy commodities. About 120 resource maps and reports on petroleum, 20 on oil shale, and 35 on uranium will be produced from the data files during the year.

(7) Denver fire — $-200,000

D. Offshore Geologic Surveys

FY 1977, $14,659,000; FY 1978, $14,659,000; no change

Program Description

(1) Oil and gas resource appraisal offshore	No program change; total, $9,316,000 No position change; total, 97

Systematic regional resource studies will be conducted by the Geological Survey to support the Department of the Interior's oil and gas leasing program on the outer continental shelf (OCS). In these studies, geological and geophysical data will be acquired and analyzed to estimate the oil and gas resource potential of the United States continental shelf and slope and deep water areas, to determine areas which have significant petroleum potential for additional OCS lease sales, and to provide geological and resource data and analysis to the Federal Government, the coastal states, and the public.

Estimates of the magnitude of the Nation's offshore petroleum resources are needed for Federal policy decisions and for long-range energy planning. Information on the oil and gas resource potential of each OCS area and the undiscovered recoverable quantities of petroleum at various water depths and operating environments are needed for the wise planning of a multi-year OCS leasing program. These studies also provide much of the basic information needed to determine the size and timing of OCS leasing sales, the 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 both to near-term OCS lease sales and to longer-term sales in hostile environments, such as offshore Alaska. Long lead times are needed to acquire geological and geophysical data, particularly in Arctic OCS areas, where data collection is, at best, limited to a few months each year and where no data are obtained in some years because of floating ice and ice-packs.

Geological and geophysical surveys for resource studies are conducted by private firms under contract to the Geological Survey or by cooperative arrangements with research institutions whenever the specific requirements of the program, the geologic problems expected to be encountered, and the geographic locations of the work lend themselves to organized patterns of data collection. However, Geological Survey geologists and geophysicists collect some geological and geophysical data using GS ships or vessels contracted from private firms when the nature of the research or the complexity of geologic problems require program modifications at sea.

Regional resource surveys are coordinated with other Federal agencies (BLM and NOAA) and with coastal states. Representatives from other Federal and state agencies and research institutions routinely participate in data collection and share in the analyzed data. Resource studies also are conducted outside the national domain when determined by the Secretary of the Interior to be in the national interest and upon request by other Federal agencies.

Before the Call for Nominations for an oil and gas lease sale in a frontier OCS area, the information gained in regional resource assessments is summarized in a Pre-Call for Nominations Report. This report, a required part of the leasing process, is a summary of the significant information in four individual reports: (1) Geologic Framework Report; (2) Petroleum Geology Report; (3) Petroleum Resource Potential Report; and (4) Environmental Geology and Hazards Report. The raw data, data interpretations, and conclusions contained in the Pre-Call for Nominations Report are public information. 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 and officials, interested and concerned individuals as well as by Federal decision makers. It is the principal source of publicly available factual geological and geophysical data prior to the time of an OCS lease sale.

Atlantic Continental Margin

High-quality digitally recorded seismic-reflection and aeromagnetic data, as well as ship-borne gravity, magnetic and seismic refraction measurements, have been extensively acquired since 1972. Analyses of these data are integrated with the results of geologic studies of the emerged coastal plain and of offshore rock samples obtained from shallow core holes and dredges. These studies have been synthesized in reports which supported the highly successful OCS Lease Sale 40 in the Mid-Atlantic (Figure G-8) and the proposed OCS Lease Sales 42 and 43 in the North Atlantic and South Atlantic, respectively. Ongoing and future activity will continue to be focused on integrating the information obtained from the Geological Survey's Atlantic OCS shallow core drilling program and the information from the Continental Offshore Stratigraphic Testing (COST) program, as it becomes publicly available, with geophysical interpretations. These synthesized studies will provide significant understanding of the oil and gas resource potential of the Continental Shelf, Continental Slope and deeper water areas, which will be involved in proposed sales #49 (Mid-Atlantic), #52 (North Atlantic), #54 (South Atlantic), and beyond.

Pacific Continental Margin

The Southern California Borderland and continental margin off northern California, Oregon, and Washington include several relatively small, but potentially petroliferous, basins that will be analyzed to provide reports and information for proposed OCS Lease Sale #48 (Figure G-9) and #53, and follow-up sales. The results of the COST deep stratigraphic test offshore southern California and data derived from bottom rock samples will be integrated into existing maps. All this information will be synthesized with geophysical data, and the results will be presented in publicly available reports on the geologic framework, petroleum geology, petroleum resource potential, and environmental geology and hazards of the area.

Alaska Continental Margin

Geological and geophysical surveys in support of the first round of oil and gas lease sales in the eastern and western (Kodiak) Gulf of Alaska (sale #39 and 46 respectively) and Lower Cook Inlet (Sale CI), provide a sound information base to prepare for additional sales (Figure G-10). In Cook Inlet, detailed maps have been completed that show the geologic framework of the area, its environmental geology, OCS lease information and petroleum operations. A substantial effort now will be directed to extending geologic knowledge from the Kodiak area westward to the Aleutian Shelf. Regional geologic and geophysical surveys have been intensified in the Bering, Chukchi and Beaufort Seas in preparation for proposed OCS lease sales #45, #50, #51, #55, #56, and #57. These efforts are expensive and progress slowly because of the short work season and hostile environment. Assistance and support by other Federal agencies, such as USCG ice-breakers, have materially aided in data collection. Preliminary results continue to indicate that giant accumulations of oil and gas could be present in parts of the Bering, Chukchi and Beaufort Seas.

(2) Energy-related environmental investigations	No program change; total, $4,096,000 No position change; total, 34

The objective of this program is to conduct marine environmental research studies that will help promote the safe exploration and development of oil and gas resources on the Outer Continental Shelf of the United States. The program is focused primarily on identifying and mapping geologic hazards to offshore development, including features such as submarine landslides and sea-floor faults. Concurrently, the effects of potential offshore development on the environment are also investigated. An example of this work is the mapping of sediment and contaminate plumes that arise from disturbances of the sea

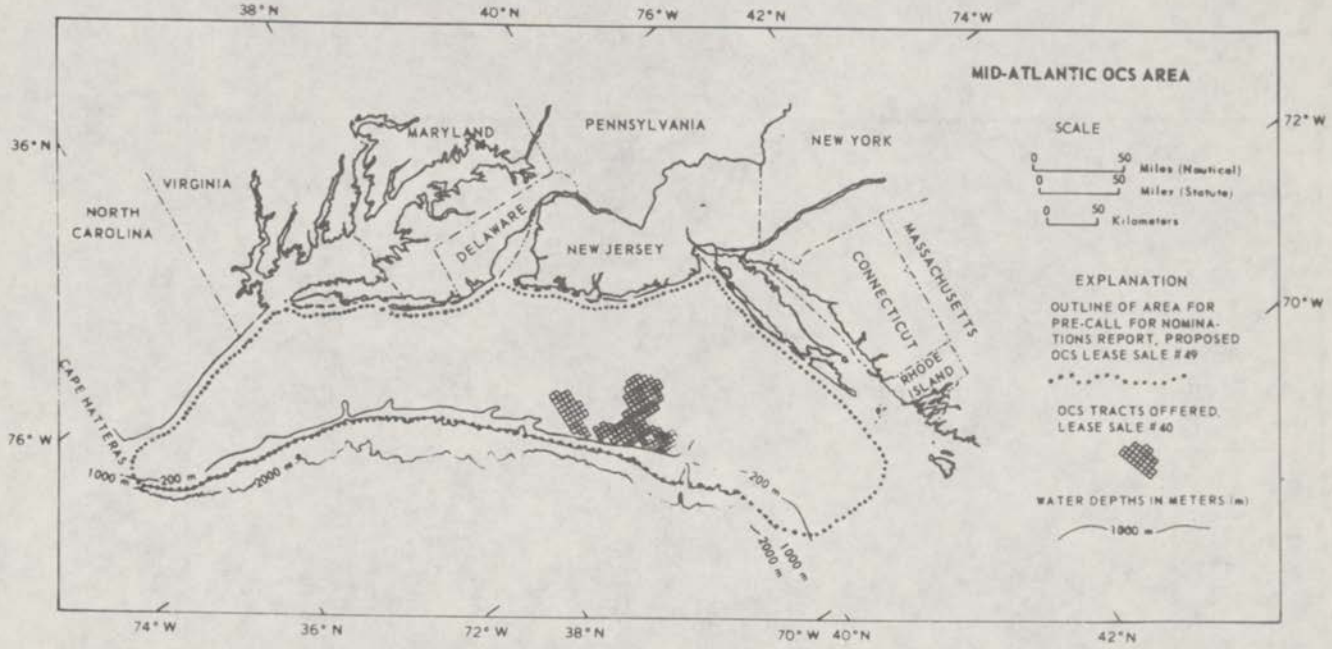

MID-ATLANTIC OCS AREA
38°N
40°N
76°W
42°N
74°W
36°N
72°W
70°W
MARYLAND
PENNSYLVANIA
NEW YORK
VIRGINIA
NORTH CAROLINA
DELAWARE
NEW JERSEY
CONNECTICUT
MASSACHUSETTS
RHODE ISLAND
CAPE HATTERAS
1000 m
200 m
2000 m
SCALE
0 50 Miles (Nautical)
0 50 Miles (Statute)
0 50 Kilometers
EXPLANATION
OUTLINE OF AREA FOR PRE-CALL FOR NOMINATIONS REPORT, PROPOSED OCS LEASE SALE #49
OCS TRACTS OFFERED, LEASE SALE #40
WATER DEPTHS IN METERS (m)
1000 m

Figure G-8.

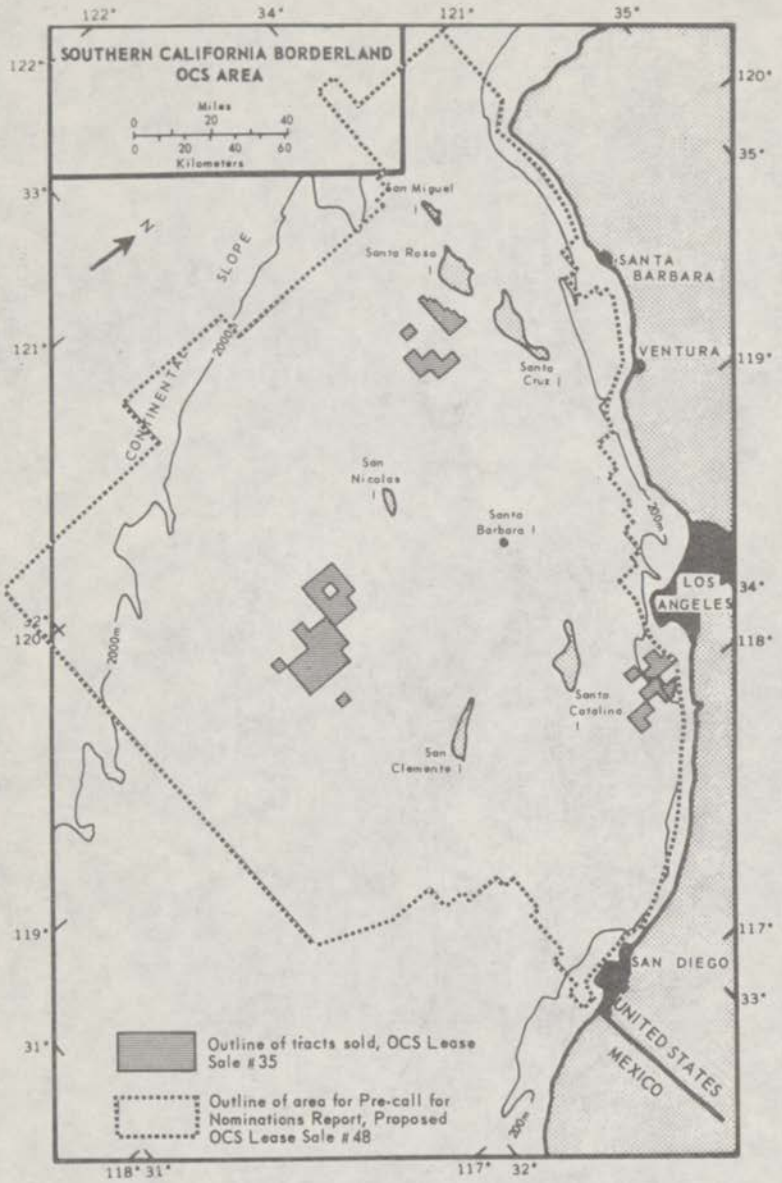
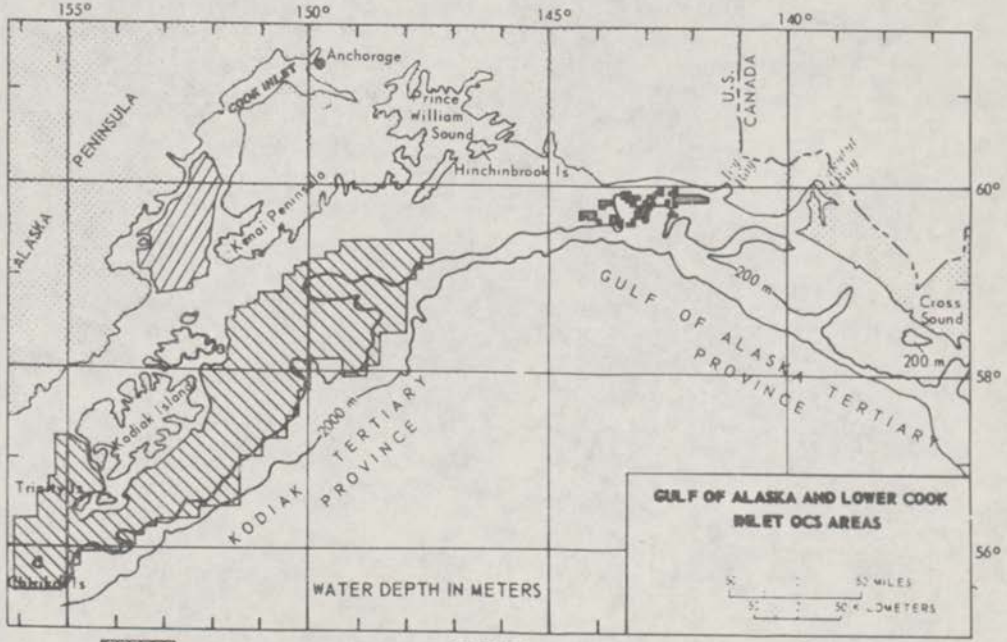

SOUTHERN CALIFORNIA BORDERLAND
OCS AREA
Miles
0 20 40
0 20 40 60
Kilometers
122°
34°
121°
35°
120°
33°
119°
32°
118°
31°
117°
San Miguel I
Santa Rosa I
Santa Cruz I
San Nicolas I
Santa Barbara I
Santa Catalina I
San Clemente I
SANTA BARBARA
VENTURA
LOS ANGELES
SAN DIEGO
UNITED STATES
MEXICO
CONTINENTAL SLOPE
2000m
200m
Outline of tracts sold, OCS Lease Sale #35
Outline of area for Pre-call for Nominations Report, Proposed OCS Lease Sale #48

Figure G-9



Outline of area for Pre-call for Nominations Report, proposed Lower Cook Inlet OCS Sale Area

Outline of area for Pre-call for Nominations Report, proposed Gulf of Alaska (Kodiak) OCS Sale Area (# 46)

Outline of tracts sold, Gulf of Alaska OCS Lease Sale # 39

GS-76

Figure G-10

floor. All the information gathered in these studies is made available to other Federal agencies, the petroleum industry, and the concerned public. It forms a common base of understanding for the safe leasing and development of the resources on the OCS.

The array of studies conducted in the course of these investigations is tailored to the regional geology and oceanography of each OCS lease area. For example, in the Gulf of Alaska and Lower Cook Inlet (Figure G-10) a great deal of effort is spent mapping sea-floor faults, whereas off the East Coast the forces that form large submarine sand waves are being monitored with bottom-mounted current meters and cameras. Program priorities initially are 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. This work complements but does not duplicate the tasks undertaken in the OCS seismic risk and ocean-bottom stability program included in the Conservation of Lands and Minerals activity. Energy-related environmental investigations focus on regional assessments of static sea-floor conditions, primarily based on the interpretation of high-resolution seismic data, whereas the OCS seismic risk program investigates the dynamics of sea-floor hazards and the geotechnical properties of marine sediments.

In FY 1978, second-round lease sales are scheduled for the Atlantic, Gulf and Pacific coasts, but the work undertaken will be dependent on the results of earlier sales. If the results of these sales indicate the presence of producible oil or gas fields, the FY 1978 program will be directed to areas adjacent to producing tracts; if production is not imminent, work will be planned in anticipation of second-round leasing that may be wide ranging, probably encompassing the upper reaches of the continental slope. In FY 1978, a regional environmental investigation of the wide Alaskan shelf will be continued, and studies of the geological engineering properties of sea-floor sediments will be conducted. Core drilling is planned on the Alaskan continental shelf to obtain samples of buried rock types.

(3) Marine geology investigations — No program change; total, $1,247,000
No position change; total, 25

The Geological Survey's marine geology investigations support the other mission-oriented programs included in Offshore Geologic Surveys by developing a better knowledge of the geologic history of the continental shelf and slope and of the geologic processes that operate in the marine environment. Most of this work is related to near shore areas, where the principal objectives are to study the nature and occurrence of various marine sedimentary deposits, such as sand, gravel, and phosphorite; investigate the geological engineering properties of sea-floor sediments; carry out research on coastal geologic processes; and undertake interdisciplinary geologic and hydrologic studies in cooperation with the Water Resources Division and the Office of Land Information and Analysis.

Research on marine sediments has been conducted on the continental shelf off New England, California, and Alaska, and phosphorite deposits have been studied in the South Georgia Embayment and off southern California. Sediment instability studies, a prerequisite for better design for offshore structures and pipelines, have centered in the Gulf of Mexico. Research on the engineering properties of marine sediments and on the effect of storm waves on these properties is based on *in situ* measurements made from offshore petroleum platforms. Combined geologic and hydrologic studies in San Francisco Bay and Willapa Bay (Oregon) are providing an understanding of estuarine environments and the sensitivity of these environments to natural and man-induced changes. Coastal processes are being studied off Texas in cooperation with State Government agencies.

In certain areas, deep-sea sediments overlying the oceanic crust are enriched in economically valuable minerals, and preliminary investigations are underway to determine the source and process of mineral enrichment. This work, together with a study of the effect of disturbed marine sediments on the ocean water column and biota, are done in cooperation with NOAA.

For FY 1978, the near shore studies described above will be continued, as will research on the chemical relation between deep-sea minerals and the marine sediments in which they occur.

E. GSA Space Costs — increase, $+299,000

Proposal. The amount requested is to provide for increased costs of space furnished by GSA.

F. Annualization of Pay Costs — increase of $142,000

G. Reduction of in-house publication services — decrease of 10 positions

Proposal. During FY 1978 the Geological Survey will increase the use of outside contracting for publication services provided to program activities.

4. Water Resources Investigations

FY 1977, $63,637,000; FY 1978, $68,579,000; increase, $4,942,000.
The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) $+1,725,000	+12	$23,578,000	655	National Water Data System Federal Program Data Collection and Analysis - Baseline Water Quality National Water Data Exchange (NAWDEX)
(B) +2,100,000	--	31,144,000	853	National Water Data System Federal-State Coop Program Coal Hydrology Water-Use Data
(C) + 826,000	+ 2	13,566,000	197	Critical National Water Problems Coal Leasing on Public Lands Nuclear Energy Hydrology Oil Shale Hydrology
(D) + 202,000	--	202,000	--	GSA space costs
(E) + 89,000	--	89,000	--	Annualize increased pay costs, E.O. 11941
(F) --	- 3	--	--	Reduction of in-house publication services
$+4,942,000	+11	$68,579,000	1,705	

Program Synopsis

The continuing national program of water resources investigations has the objective of insuring that the Nation's water resources are appraised and that the necessary water data to develop and manage them efficiently are available when needed. The program produces data and information relevant to the water and sediment discharge of rivers, location and quantity of underground waters, chemical quality and temperature of surface and ground waters, availability and suitability of water for present and future demands, changes to the hydrologic system caused by nature and by man--all of which are essential for water planning, water management, energy development, improvement of the environment and the well-being of the Nation. Included in the program is research needed to increase our understanding of fundamental principles of water occurrence, movement, and interaction with its environment, and to increase the accuracy and usefulness of water data through improvements in technology and methodology.

The increase for FY 1978 will provide for significantly expanded data collection and interpretive studies for: the safe disposal of nuclear wastes; expanded water data collection activities and predictive studies for water availability,

conservation, and environmental protection in areas of new or increasing coal production; and the installation of 100 water quality stations to bring the National Stream Quality Accounting Network to 85% of its design size of 525 stations and begin to provide baseline water quality information for most of the Nation. A water use program (collection of data and information of where, how much, and for what purpose water is used) will be initiated in cooperation with the States; and the National Water Data Exchange (NAWDEX) will be strengthened to improve the availability and dissemination of water data to all users.

The National Water Data System comprises the greater part of the effort by the Geological Survey to 1) acquire, process, store and disseminate data on the quantity, quality, location, movement and changes in the Nation's water supply, 2) conduct analytical studies and appraisals of local, regional, or national conditions, with focus on critical and urgent National water problems, and 3) conduct basic and problem-oriented research to improve methods and technology of water resources measurement and appraisal. The Geological Survey is the principal Federal water-data agency, and its programs constitute the major part of the total Government (Federal, State, local) system. It is responsible under OMB Circular A-67 for coordinating water data activities of all Federal agencies.

The Federal Program component of the National Water Data System provides for water-data collection, resources investigation, coordination of water data programs, and research activities to support that segment of the National Water Data System in which the Federal interest is paramount, including the public domain, river basins and aquifers that cross State boundaries, and other areas of international or interstate concern.

The Federal-State Cooperative Program component of the National Water Data System provides well over half of the Nation's water resources information base and is a continuing program which responds directly to changing and increasing demands of Federal, State and local agencies for information essential to water-resources decision making. Projects cooperatively funded with 580 agencies contribute to the solution of urgent National and State problems and strengthen the National Water Data System effort, thereby appreciably reducing the amount of data collection requiring 100% Federal funding. Estimated state offerings to be matched in FY 1977 and offered for matching in FY 1978 are shown on page GS-92. Although the data collection and studies may be closely linked to local water problems, they are of substantial national interest because they yield information that has applicability to similar problems elsewhere.

More importantly, they contribute segments of information which aggregate to regional and national levels of knowledge. Cooperative projects are jointly planned by State and Federal representatives at grass-roots level, which assures optimum melding of Federal and State priorities.

The activities of Critical National Water Problems are directed toward accomplishing analytical, predictive, and interpretive studies that lead to the easing and solving of urgent existing, emerging, and foreseeable problems of national concern. The programs of all subactivities are coordinated and are mutually supportive.

A. National Water Data System - Federal Program

FY 1977, $21,853,000; FY 1978, $23,578,000; increase $1,725,000.

Major Program Changes

(1)	Baseline Water Quality (a subelement of Data Collection and Analysis)	$+1,400,000; total, $4,676,000 +10 positions; total, 103

Proposal. Increased funds are requested to:

- o add 100 stations to the National Stream Quality Accounting Network (NASQAN)
- o analyze and interpret water quality data collected through NASQAN and other water-quality programs that will define national water quality conditions
- o strengthen and expand the development of methods to analyze organic substances, and to measure biological characteristics of streams.

The addition of 100 NASQAN stations will increase network size to 445 stations, 85% of the estimated design size of 525 stations. Most new stations will be located at mouths of streams entering estuaries or flowing into the sea. Strong emphasis in FY 1978 will be placed on providing more useful analytical and predictive assessments and reports on regional-level water quality.

Justification. The intensification of man's activities in energy and food production, industrial output, and attempts to adapt the environment to his desires, has had a major adverse impact on the quality of the Nation's water resources. Inadequate water quality can limit private and governmental choices as illustrated by the restrictions they may place on the development of energy resources in the Colorado River Basin. Federal and regional planners and regulatory agencies require adequate and timely water-quality data to plan for water resources development and management, to document the effects of their efforts to control water pollution, and to define critical problems that require further attention.

Accurate analysis of baseline water quality affects numerous decisions involving significant commitments of Federal, State, local and private funds for a wide range of purposes, including the construction of sewage treatment plants, resource development and administration of anti-pollution laws. Several recent assessments of national water quality, such as those prepared by the Council on Environmental Quality or by the National Commission on Water Quality, have severely criticized the shortage of data needed to adequately judge water quality despite the fact that the cost of data acquisition is a small fraction of the expenditure committed in the decisions which are influenced by the data.

The Naticnal Stream Quality Accounting Network (NASQAN) was established by the Geological Survey to provide a uniform, nationwide regional-level assessment of current water-quality conditions and trends.

As more and more is learned about the influence of actions and products on the Nation's health and well-being, the Nation has become increasingly aware of the need to measure the stresses imposed on the environment. Yet, in the case of many of the organic pollutants released to our streams, reliable methods for their detection and quantification do not exist. The ability to measure the effects of these pollutants on life in streams is similarly hampered by a lack of standardized methods for measuring biological conditions in streams. An increased effort in development of methods for determining organics in water and for assessing the biological quality of streams will enhance the Nation's ability to protect our environment. Figure W-1 identifies the location of stations in

Locations of stations in the National Stream Quality Accounting Network in operations as of January 1, 1976

Figure W – 1

the National Stream Quality Accounting Network in operation as of January 1, 1976.

Cost Factors. Personnel services and benefits costs for ten (10) positions at an average rate of $25,000, $250,000; other costs, $150,000; equipment, $250,000; contractual services, $750,000.

(2) National Water Data Exchange (NAWDEX) $+400,000; total, $676,000
+2 positions; total, 8

Proposal. The increase will be used to extend development of data indexing activities of other agencies, data management techniques, and informational products essential to the expansion of NAWDEX data bases and dissemination of data; provide technical support to an expanding effort of field-level data assistance; and improve standards and guidelines for handling and exchanging water data among member institutions.

Justification. Water data are being collected by hundreds of Federal, State, and private organizations each year. These data are, to a large extent, unused by other than the collecting agency, because it is not generally known that they exist or are available. Better information on the availability of these data will reduce the chance of duplication of data-collection efforts, overlap in the design and maintenance of data-collection networks, and excessive costs and time expenditures in searching for and acquiring needed data.

The National Water Data Exchange (NAWDEX) was established by the Geological Survey in FY 1976 with the strong endorsement of the Federal and non-Federal water-data community to meet the need for a centralized information service and to further the water-data coordination task assigned to the Geological Survey's Office of Water Data Coordination. The Geological Survey is the major water-data collection agency within the Federal sector and its activities are conducted cooperatively with 21 Federal and more than 500 non-Federal organizations. It is, therefore, viable and cost effective for the Survey to maintain and coordinate the NAWDEX activity leading to a greater awareness and use of existing water data.

Cost Factors. Personnel services and benefits costs for two (2) positions at an average rate of $25,000, $50,000; other costs, $15,000; equipment, $60,000; contractual services, $275,000.

(3) Denver Fire $-75,000

Proposal.
This funding, made available in fiscal year 1977, was for the one time replacement and repair of items damaged or destroyed in a fire at the Survey's Denver, Colorado facility.

(4) All other programs No program change; total, $18,226,000
No position change; total, 544

Program Description

The Federal Program is composed of the following elements:

Element	FY 1978	Change from FY 1977
1. Data Collection and Analysis	$12,713,000	$+1,400,000
2. National Water Data Exchange	676,000	+ 400,000
3. Coordination of National Water Data Activities	811,000	--
4. Regional Water Resource Appraisals	606,000	--
5. Core Program Hydrologic Research	5,300,000	--
6. Hydrologic Investigations on Public Lands	232,000	--
7. Training, Publications, and Supporting Services	3,240,000	--
8. Denver Fire	--	- 75,000
	23,578,000	+1,725,000

(1) Data Collection and Analysis $+1,400,000; total, $12,713,000
+10 positions; total, 381

Basic data are collected to provide a continuing appraisal of the quantity, quality, and location of the surface and ground waters to develop and maintain the data base for evaluation and planning of the Nation's water resource. Areas of emphasis change somewhat from year to year due to increasing and changing stresses on the Nation's water system and the program is modified to meet the current needs.

Streamflow including daily mean discharge and extremes of flow will be measured. Continuous discharge data will be collected at 710 stations, partial discharge or extreme events at 90 stations, and lake and reservoir contents and changes recorded at 190 stations.

Data on ground-water levels, movement or pumpage will be collected at 5,000 sites. Water-quality data will be collected at 750 stream locations and 120 ground-water locations.

These data will be analyzed, processed and published in 110 statistical reports in FY 1978.

The increase requested in the Data Collection and Analysis element is for the subelement "Baseline Water Quality" which is designed to meet a growing demand for information needed for managing water quality on a local, regional, and national scale, and is described in detail below. Activities include:

(a) National Stream Quality Accounting Network (NASQAN) -- is designed to provide a uniform, nationwide assessment of current water-quality conditions and, over time, to detect trends. NASQAN currently provides data to describe streamflow quantity and quality at 345 stations. These data provide some representation of water quality in each of the 325 accounting units defined by the Office of Water Data Coordination and the U.S. Water Resources Council. However, because of complex drainage patterns along international boundaries, in coastal areas, and in other basins, NASQAN design calls for 525 stations to meet national and regional needs for uniform data bases. NASQAN's present size of 345 stations fills about 67% of the data needs. An increase of 100 stations in FY 1978 will bring the network size to 445 stations, 85% of the design size.

Data from NASQAN on the physical, chemical, and biological quality of streams in the network presently are provided to data users in raw form or as summaries having minimal interpretation. Program increases for FY 1978 will provide for considerable interpretation of the data to make the data more

useful in relating water quality to the natural and man-made factors which influence the quality of water.

(b) Hydrologic benchmark network -- provides background information on water quality in areas relatively unaffected by man. The network includes 51 stations, a size which is considered adequate for meeting network objectives.

(c) Basic records of river quality -- supports the Federal interest at international boundaries, compact points, and other locations. The activity, in support of Federal interests, provides for the collection of data at approximately 100 stations.

(d) River-quality assessments -- are designed to develop and demonstrate new approaches and methods for defining the effects of management alternatives and methods on river quality. Assessments being conducted during FY 1977 include an intensive assessment of the Chattahoochee River basin of Georgia and Alabama. Work during FY 1978 will concentrate on the design of a prototype intensive estuarine water quality assessment.

(e) Research and development of methods and instruments -- is a continuing effort in support of the several networks and projects aimed at measuring baseline water quality. Supportive methods development research will be expanded somewhat in FY 1978, with particular emphasis on new and improved methods for analysis of organic substances and measurement of biological aspects of water quality.

(2) National Water Data Exchange (NAWDEX) $+400,000; total, $676,000
+2 positions; total, 8

Objectives for NAWDEX include improving the NAWDEX information base by expanding activities to gather background information about organizations collecting water data and developing more computerized interfaces between member data banks, the Water Data Sources Directory, and the Master Water Data Index. Indexing capabilities will be expanded to include areal-type data, and facilities will be developed for handling bibliographic references to water data. The number of Local Assistance Centers will be expanded from 45 to about 55 and technical and user-related support will be expanded to encompass the additional Centers. NAWDEX membership will be increased to about 200 organizations and coordination activities will be expanded between members. Activities for the development of recommended standards and guidelines designed to reduce the cost and simplify the handling and exchange of water data will be continued and expanded to serve the additional membership.

(3) Coordination of National Water Data Activities — No program change; total, $811,000
No position change; total, 20

The Office of Water Data Coordination (OWDC) carries out responsibilities assigned to the Department of the Interior by OMB Circular A-67. The objective is to achieve effective coordination of water data acquisition activities of all Federal agencies with those of non-Federal organizations.

In FY 1978 the Catalog of Information on Water Data will be updated and will be the basis for the field-level coordination of planned data programs, including, for the first time, areal investigations as well as the station activities for streamflow and stage, surface-water quality, and ground-water quality. This activity produces the annual 21 Regional Plans and Federal Plan for Water Data Acquisition in the United States. Work will continue on defining the base and regional levels of the national water-data network. The initial edition of the "National Handbook of Recommended Methods for Water Data Acquisition" will have been printed and distributed in FY 1977 following review of all ten chapters by over 100 Federal and

non-Federal technical experts. In FY 1978 several of these chapters will be updated to reflect newly-developed methods, and will be reprinted and distributed. The Coordinating Council on Recommended Methods will also develop interagency recommendations for metric units and metric conversion of equipment in the field of hydrology.

(4) Regional Water Resource Appraisals — No program change; total, $606,000
No position change; total, 21

This program element is designed to provide hydrologic and water-resources information through assembly, analysis, and interpretations of existing and new data for major water problems of regional and national scope. The problems addressed include those associated with urban-area management, regional water supply, land-use and water-use planning, and other broad public concerns. The products of these water-quality and water-availability compilations and investigations are used by Federal, State, urban, and private planners and other water-data users in support of planning and management decision procedures.

Components of the Regional Water Resource Appraisals program include the following:

Regional Ground Water Appraisals - This program includes a series of 21 regional ground-water analytical appraisals covering the Nation and Puerto Rico. Primary activity in FY 1978 is the initiation of a nationwide summary document highlighting the national significance and usefulness of the regional appraisals and providing a current broad overview of the nation's ground-water resources.

Sub-Regional Water Resources Appraisals

(a) Delaware River System Study. This study is an intensive compilation of existing streamflow and quality data, and model analysis of the upper Delaware River System designed to serve as an aid to reservoir regulation, quality control, and general river management.

(b) Appraisal of High Plains Natural Water Supply. This appraisal consists of a compilation and synthesis of available water data for solution of problems on the High Plains natural water supply, including primarily the ground-water supply of the Ogallala formation. This formation is the principal aquifer of this important agricultural region which is economically threatened by increased pumping lifts and local water shortages.

(c) Subregional problem appraisals. The appraisals consist of studies of subregional size river basins to identify and evaluate significant water resources problems and to evaluate the adequacy of existing data for solving them. These studies will provide a basis for planning water data programs that are more cost effective and establishing program priorities. Candidates for river basin appraisals in FY 1978 are the Mahoning River in Ohio and the Truckee River in Nevada.

Nationwide Ground Water Program Review - This review represents the initiation of a two-year intensive analysis of ground-water programs, their effectiveness, applications, and efficiency. The program will identify uses and value of data produced, their accuracy, and the opportunity for improvements in program design, analysis, and reporting.

(5) Core Program Hydrologic Research — No program change; total, $5,300,000
No position change; total, 122

Basic and problem-oriented hydrologic research is conducted in support of the mission of the Geological Survey. The objective of this Research Program is to provide sufficient understanding of hydrologic systems so that quantitative predictions of response of these systems to either natural or manmade stress can be made. This research is directed toward development of the methodology

83-561 O - 77 - 48

and improvements in mensuration to:

- o characterize the state of hydrologic systems both of ground and surface water--including a system of real-time satellite relay of data.
- o predict the response of ground-water systems to natural conditions as well as development.
- o predict the response of surface-water systems to variations of rainfall as well as in-stream changes.
- o predict the movement of contaminants including radioactive wastes, heat, as well as natural pollutants in ground-water and surface-water systems.
- o predict ecological changes in response to changes in the hydrologic regime.

The program addresses a wide spectrum of problem areas in hydrology, including:

- o Water quantity
  Control of excess water
  Water supply augmentation and conservation
- o Water quality
  Effects of pollution
  Disposal of waste
- o Environmental impact
  Economic effects
  Ecosystems effects
- o Water planning and management
  Institutions
  Methods and procedures
  Basic data adequacy

(6)	Hydrologic Investigations on Public Lands	No program change; total, $232,000 No position change; total, 6

Studies on public lands will include hydrologic impact of surface mining of coal, oil shale, and phosphate on shallow aquifers, and water supply exploration on selected public land areas. The projects will be on public lands throughout the Nation and the data will be used by the Department of the Interior to improve the management, utilization, and conservation of water and soil and to aid in increased production of food, fiber, energy and minerals for the Nation.

(7)	Training, Publications, and other Supporting Services	No program change; total, $3,240,000 No position change; total, 97

This program element provides for publication and operational support, personnel training, career development, and specific services for water resources activities. Publication standards and guidelines are developed; and the publication and release of some 800 reports are supervised and monitored. Support of the chairmen for 8 interstate and/or international compacts are provided. Classroom and in-the-field training is conducted to provide the special knowledge (not obtainable in academic institutions) and expertise required to understand and efficiently execute the hydrological investigations of the Geological Survey.

(8)	Denver Fire	$-75,000

B. National Water Data System - Federal-State Cooperative Program

FY 1977, $29,044,000; FY 1978, $31,144,000; increase $2,100,000

Major Program Changes

(1) Coal Hydrology — $+1,100,000; total, $2,778,000
No position change; total, 60

Proposal. The requested increase in this program is needed to assess mining related hydrologic problems and water control measures in specific problem situations and to appraise water needs and availability on a regional basis for coal extraction, conversion, and transportation. The program in FY 1978 will emphasize Federal-State cooperative studies involving all water needs for coal development to include coal conversion and transportation, and increased community needs as well as coal extraction and concurrent reclamation.

Justification. At least 15 states outside of the Northern Great Plains and Rocky Mountain Regions are major producers of coal, generally from non-Federal lands. The hydrologically related coal mining problems are as diverse as the states involved. Many of these problems, some of which are derived from the coal leasing program, are highly site specific and are of particular concern to local, as well as National, authorities. Assessment, solution and prevention of the problems of mine drainage, strip mining reclamation, mine dewatering, and impacts on water supplies can frequently be better identified and studied if in cooperation with State agencies close to the scene. Furthermore, the coal conversion industries are more apt to develop in states where more adequate water supplies exist. Determination of the adequacy of the water supplies, as well as the possible impacts of the conversion industries which are imminent, requires timely baseline monitoring of existing hydrologic conditions in concert with state needs.

Cost Factors. Equipment, $100,000; contractual services, $900,000; other costs, $100,000.

(2) Water Use Data — $+1,000,000; total, $1,000,000
No position change; total, 0

Proposal. This increase is needed to establish under the cooperative Federal-State program a national water-use data acquisition and dissemination activity to monitor the use of the Nation's fresh and saline waters. Statistics on such water uses as domestic, industrial and agricultural are required for the planning, management and development of the Nation's water resources and to provide data necessary to identify and resolve critical water problems involving water quality, residuals, environmental impacts, energy developments and resource allocations. The program will be designed and managed by the Geological Survey and the manpower intensive collection at the field level will be done by State or local agency personnel.

Justification. An urgent need for water use data exists to better define the availability of water in many sectors of the country. The need is further substantiated by the requirements identified in the National Assessment, accomplished under the guidance of the Water Resources Council. It is essential that analyses involving the adequacy of the Nation's water resources be developed on the basis of the most accurate data in order to identify those parts of the country that either are or potentially are water short areas. Development and management of available resources cannot be effectively carried out without proper statistics describing how much water is used, where and by

whom so that the amount remaining available and its distribution can be evaluated. The present availability of water use data is essentially non-existent where water is plentiful, but may be rather complete where the water demand has approached, or exceeded, the available resources. The "non-problem" areas will experience greater competition for their water resources and will approach the upper limits on resource availability. Engineers and scientists will be asked to find solutions to expected problems and will require water use data to provide a basis for water allocation decisions. The Geological Survey, the major data collecting organization in the Nation, has the necessary experience and technical expertise to design and manage a national program; including the development of standards, techniques and methodologies for collection, handling and dissemination of data. Inasmuch as State and local agencies have responsibility for management and development of their water resources, it is appropriate to design this program to incorporate the interests of all levels of government. This would be accomplished by a division of work reflecting the program needs of the different levels. Direction, management and standards development to provide for a national, consistent and comprehensive program would be the responsibility of the Geological Survey. Manpower intensive field activities for the acquisition of the data would be undertaken by state and local agencies where direct communication with the water user community can be readily established.

Cost Factors. Equipment, $75,000; contractual services, $760,000; other costs, $165,000.

(3) All other programs. — No program change; total, $27,366,000
No position change; total, 793

Program Description

Federal-State Cooperative Program — $+2,100,000; total, $31,144,000
No position change; total, 853

The objective of this program is to provide cooperatively the continuing appraisal of the quantity and quality of the Nation's water, to improve the hydrologic information available, and to serve Federal, State, and local needs in developing, utilizing, conserving, and managing water and land resources.

Data collection, analytical studies, areal water resource appraisals, and supportive problem oriented research provides the information to conduct regional planning by river basin commissions and other Federally sponsored organizations; evaluate the environmental consequences of planned and proposed water and land developments; meet the requirements of new and pending Federal and State legislation to regulate water development and water use; and plan, design and implement Federal and State programs to alleviate or resolve energy, water quality, water supply, and environmental problems.

Data collection activity through operation of network stations is primarily a long term function. Areal appraisals and interpretive studies, which are an important segment of this program, comprise hundreds of individual projects which, for the most part, are completed in one to three years and result in a published report.

The usefulness and validity of the program is assured by continual change to respond to current needs. As problems arise and as the need for new kinds of water information develops (e.g., waste emplacement, environmental protection, energy development, pesticides, radioactive materials in water, and water use), Federal and local agencies jointly adjust and redirect the programs.

Program elements that will receive increases are described in greater detail below:

a. Coal hydrology. Studies of mining related water problems and needs will be conducted as follows:

Water supply for mining, conversion and reclamation needs	30
Effectiveness of reclamation and impoundments as evaluated through hydrologic responses	9
Baseline water quantity-quality assessments	21
Impacts on water quality from coal mining, conversion, and transport industries	25

Water data will be obtained at 700 sites in conjunction with these studies.

These highly specific studies help meet the needs of states in encouraging mining, evaluating existing and future reclamation programs, and establishing baseline hydrologic conditions to permit assessment of future impacts.

b. Water Use. The Geological Survey will be responsible for developing the design characteristics for the national water use data system being initiated; for preparing contract specifications and providing technical guidance for specific contracts to design the water use data handling portion of the system; for establishing liaison with appropriate State and local organizations to develop background information on Federal, State and local needs for water use data; and for providing technical guidance through the district offices of the Geological Survey directly to the local governmental units that will be involved in the water use data acquisition activities. Field collection of water use data by State personnel in the Federal-State cooperative program will be initiated.

In FY 1978 the program will operate, analyze data and provide records and reports as follows:

Surface water	
Continuous discharge stations	4,890
Partial discharge stations	7,420
Lake and reservoir contents stations	440
Water quality	
Surface water stations or sites	6,000
Underground sites	7,600
Ground water	
Systematic collection of site records for ground water levels, movement, or pumpage	13,000
Areal water resource appraisals	550

Critical problem studies

Underground waste emplacement	25
Estuarine and coastal	150
Artificial recharge	9
Flood mapping	8
Small stream hydrology	6
Urban area hydrology	5
Energy development hydrology:	
Stations	700
Projects	85
Water use information	8
Other data collection, applied research, and miscellaneous water assessments	300

WATER RESOURCES INVESTIGATIONS: FEDERAL-STATE PROGRAM
ESTIMATES OF STATE AND PRINCIPAL OFFERINGS FOR FY 1978
(Thousands of Dollars)

State	Estimated State Funds to be Matched in 1977	Estimated Offerings for Matching 1978	Increase (+) Decrease (-)
Alabama	$ 519	$ 657	$+ 138
Alaska	358	410	+ 52
Arizona	594	767	+ 173
Arkansas	318	454	+ 136
California	2,216	3,232	+ 1,016
Colorado	793	900	+ 107
Connecticut	279	311	+ 32
Delaware	97	98	+ 1
Florida	2,634	3,800	+ 1,166
Georgia	533	570	+ 37
Hawaii	371	383	+ 12
Idaho	431	565	+ 134
Illinois	381	490	+ 109
Indiana	698	900	+ 202
Iowa	329	385	+ 56
Kansas	670	1,100	+ 430
Kentucky	521	575	+ 54
Louisiana	784	1,000	+ 216
Maine	121	165	+ 44
Maryland	463	563	+ 100
Massachusetts	304	293	- 11
Michigan	421	480	+ 59
Minnesota	434	682	+ 248
Mississippi	323	353	+ 30
Missouri	250	300	+ 50
Montana	277	433	+ 156
Nebraska	261	480	+ 219
Nevada	248	300	+ 52
New Hampshire	88	99	+ 11
New Jersey	503	698	+ 195
New Mexico	734	895	+ 161
New York	$ 1,193	$ 1,566	$+ 373
North Carolina	504	570	+ 66
North Dakota	390	500	+ 110
Ohio	596	685	+ 89
Oklahoma	368	450	+ 82
Oregon	418	510	+ 92
Pennsylvania	1,112	1,448	+ 336
Rhode Island	64	72	+ 8
South Carolina	272	300	+ 28
South Dakota	269	320	+ 51
Tennessee	511	600	+ 89
Texas	1,858	2,510	+ 652
Utah	497	593	+ 96
Vermont	58	56	- 2
Virginia	254	416	+ 162
Washington	957	1,135	+ 178
West Virginia	221	290	+ 69
Wisconsin	547	610	+ 63
Wyoming	324	394	+ 70
American Samoa	20	20	--
D.C.	2	2	--
Guam	33	40	+ 7
Puerto Rico	287	436	+ 149
Trust Terr. Pac.	85	94	+ 9
Virgin Islands	15	--	- 15
TOTAL	$27,808	$35,955	$+ 8,147

Estimated State projects to be accepted for matching ----	30,675
Program administration -----	+505
Total budgeted Fed. funds --	31,180 *

*Includes increase for annualization of pay costs.

C. Critical National Water Problems

FY 1977, $12,740,000; FY 1978, $13,566,000; increase $826,000

Major Program Changes

(1) Coal Leasing on Public Lands — $+200,000; total, $2,022,000
No position change; total, 6

Proposal. Increased funds are requested to permit the operation of the hydrological monitoring system established in seven coal sub-regions designated for accelerated Federal leasing in FY 1977 which, in conjunction with the base program, will permit an expansion of the system to additional priority regions as they are identified by the Bureau of Land Management.

Justification. Experience in the oil shale and geothermal leasing programs has demonstrated a need for water resource data before, during, and after mining as an index of the impact of Government leases operations on regional water resources. Such impacts include changes in stream discharge, stream quality, sediment transport, and ground-water quantity and quality. In FY 1977 the hydrologic monitoring system is being updated and expanded in seven coal sub-regions. In FY 1978 improved monitoring systems will be established in approximately the same number of additional lease sub-regions in addition to operating the existing monitoring system.

Cost Factors. Equipment, $20,000; contractual services, $160,000; and other costs, $20,000.

(2) Nuclear Energy Hydrology — $+700,000; total, $2,039,000
+2 positions; total, 13

Proposal. The increased funds will permit the installation and operation of ground-water monitoring stations at the Nevada and Washington State low-level waste burial sites, and will permit an acceleration of studies intended to aid ERDA in selecting high-level waste repository sites in various geologic formations, such as bedded salt, salt dome, unsaturated rocks, crystalline rocks and shale.

The results of the low-level burial ground studies will permit understanding of the hydrogeologic conditions at existing low-level burial sites and will have potential for developing site selection and monitoring criteria for future low-level burial sites.

The results of the high-level waste repository studies will support ERDA and NRC in their development of site selection and monitoring criteria for national high-level waste repositories.

Justification. The critical problems of migration of toxic radionuclides from either low-level burial sites or high-level waste repositories are largely water related but impacts are not completely understood. The Geological Survey has the responsibility to deal with the principles and processes of radioactive waste movement in the hydrologic environment. Studies of burial sites and related research efforts will be performed as needed to determine hydrologic constraints to nuclear waste disposal.

Cost Factors. Personnel services and benefits costs for two (2) positions at an average rate of $25,000, $50,000; other related costs, $20,000; equipment, $60,000; contractual services, $570,000.

(3) Oil Shale Hydrology — $-74,000; total, $2,398,000
No position change; total, 22

Proposal. Reflects a reduction in oil shale hydrology activity.

(4) All other programs — No program change; total $7,107,000
No position change; total, 156

Program Description

The Critical National Water Problems program is composed of the following elements:

Element		FY 1978 Funding	Change from FY 1977
1. Coal Hydrology		$5,930,000	$+200,000
a. Base Program	$1,374,000		
b. Madison Limestone Aquifer Study	2,534,000		
c. Coal Leasing on Public Lands	2,022,000		(+200,000)
2. Nuclear Energy Hydrology		2,039,000	+700,000
3. Oil Shale Hydrology		2,398,000	- 74,000
4. Underground Heat Storage		105,000	---
5. Ground Water Recharge		1,250,000	---
6. Subsurface Waste Storage		1,302,000	---
7. Flood Hazard Mapping		387,000	---
8. Estuarine Studies		155,000	---
		13,566,000	+826,000

(1) Coal Hydrology

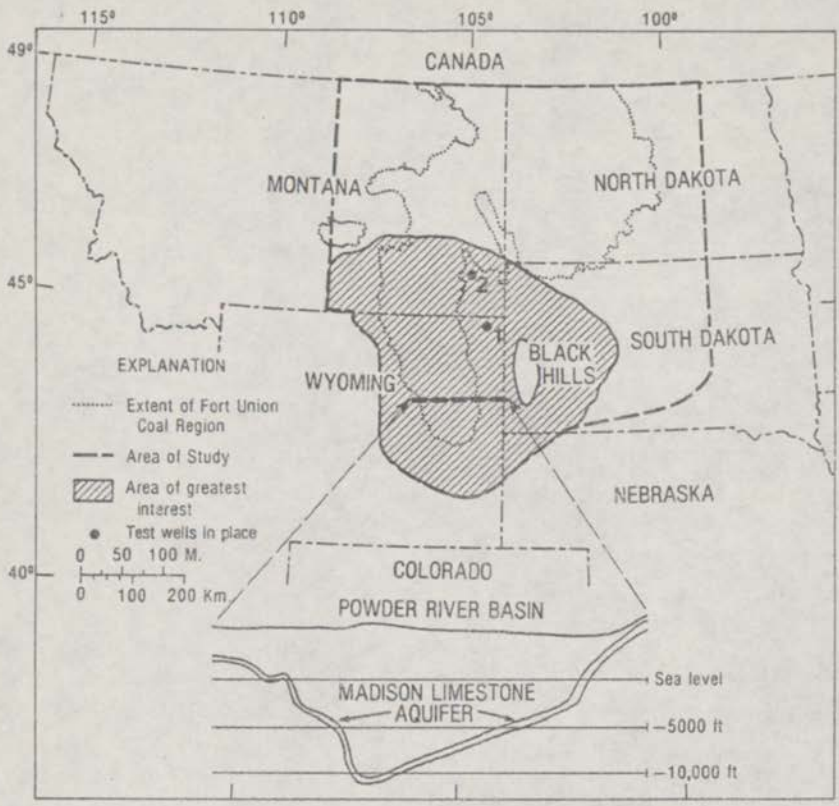
Hydrologic investigations in areas of increasing or new coal mining are composed of three program elements: a) Base Program - determination of surface and ground water quantity and quality before, during, and after mining operations; b) Madison Limestone Aquifer Study encompassing portions of five states (Figure W-2); and c) determining baseline water conditions in sub-regions of public lands that are proposed for early leasing by the Bureau of Land Management.

a. Base Program — No program change; total, $1,374,000
No position change; total, 35

The base coal hydrology program consists of two distinct elements: 1) general water supply availability and quality studies, and 2) site-specific evaluation of mining and reclamation impacts on hydrologic systems.

Hydrologic investigations on an areal basis generally include appraisal of quality and quantity of ground water and surface water based upon gaging of streams and statistical analysis of discharge data, hydrogeologic mapping, drilling and testing of subsurface deposits, observations of water levels in wells, and sampling for chemical analysis of typical streams and wells.

Coal mining is not new in the United States and there are numerous areas where mine drainage problems exist and downstream impacts have occurred and are continuing. Similarly, various degrees of reclamation and restoration are being practiced. Site-specific studies of these problems provide insight into their causes and may lead to identification of remedial as well as preventive measures to be taken with new mining.



LOCATION OF MADISON LIMESTONE AQUIFER STUDY AREA AND GENERALIZED GEOLOGIC SECTION SHOWING DEPTHS OF AQUIFERS UNDER THE POWDER RIVER BASIN

Figure W-2

b. Madison Limestone Aquifer Study — No program change; total, $2,534,000
No position change; total, 9

Paleozoic rocks, which include the Madison Limestone, its equivalents, and associated rocks--called the Madison aquifer--underlie the Fort Union coal region and adjacent areas in Wyoming, Montana, the Dakotas, and Nebraska (see Figure W-2). Preliminary studies by the Geological Survey and State agencies indicate that this aquifer might provide a significant percentage of the total water requirements for coal development. The objectives of this study are to determine the quantity of water that may be available from the Madison aquifer; the chemical and physical properties of the water; the effects of existing developments and to predict the probable hydrologic effects of proposed withdrawals of water for large-scale development. Drilling, coring, and geophysical testing have been completed in Wyoming on the first 4,355-foot deep test well in the Madison formation; a second well is being drilled to about 10,000 feet in Montana. As the study continues other test wells will be drilled and tested, and combined with other surface and subsurface data will allow fabrication and calibration of the simulative model necessary to answer the questions asked above.

c. Coal Leasing on Public Lands — $+200,000; total, $2,022,000
No position change; total, 6

Expanded coal leasing is occurring in areas where there has been minimal prior interest in water resources, and hence little prior occasion to establish monitoring. Large scale mining, mainly by surface methods will impose major new impacts on entire drainage basins and will have the potential for impacting other water users far downstream. Newly issued regulations impose water quantity and quality criteria during mining and after mining which require intensive monitoring of streams and ground water as a check on the adequacy of mining management procedures.

The base program, initiated in FY 1975, and a continuing Cooperative program have provided preliminary hydrologic information. Nevertheless, because of the magnitude of expected mining in these areas, an upgrading of the water monitoring program in western coal areas is badly needed to meet the monitoring obligations of the Coal Lease Program.

In FY 1977 the hydrologic monitoring network in seven priority coal lease regions was upgraded and expanded. In FY 1978 the monitoring network will be strengthened in additional priority coal lease regions. As in FY 1977, a major portion of the monitoring network will be operated by private contractor under close surveillance by USGS personnel.

(2) Nuclear Energy Hydrology — $+700,000; total, $2,039,000
+2 positions; total, 13

The nuclear energy hydrology program has three objectives:

a. Site-specific studies of the geologic and hydrologic conditions at commercially operated, existing land fill systems used for the disposal of low-level solid radioactive wastes. The results of these studies will lead to the understanding of the hydrogeologic conditions at these sites, to an improvement of their present monitoring and operating systems, and to the development of geologic and hydrologic criteria and guidelines for future site selection.

b. Geochemical studies intended to give insight into how radionuclides migrate and are sorbed and fixed in a variety of hydrogeologic environments. This involves laboratory and field studies of sorption processes in a variety of saturated and unsaturated porous media.

c. Evaluation of potential high-level waste repository sites in various geologic formations, such as bedded salt, salt domes, unsaturated rocks, crystalline rocks and shale. These high-level waste repository study programs are closely coordinated and supplement ERDA programs.

(3) Oil Shale Hydrology — $-74,000; total, $2,398,000
No position change; total, 22

The oil shale hydrology program consists of an intensified hydrologic baseline monitoring program in the oil shale regions of Colorado, Utah, and Wyoming. This program provides the data on the surface and ground water hydrology needed to predict the amount and quality of ground water present in the oil shale and how it will affect underground mining, open pit mining, and in-situ extraction processes. Furthermore, baseline hydrologic data are essential to predict the effects of disposal of tremendous volumes of spent shale on ground and surface waters, and to allow the Department of the Interior to evaluate the long term impacts of oil shale development on water quantity and quality both in the oil shale region and on the Colorado River Basin.

In addition, basic hydrogeologic data on aquifer properties and surface water-ground water relations are being obtained by core drilling and aquifer testing, and are being used to develop predictive models of the hydrologic system to simulate the effects of mining. Geochemical and geomorphic research will determine the pollution risks of the waste that is associated with mining and surface processing.

(4) Underground Heat Storage — No program change; total, $105,000
No position change; total, 1

The underground heat storage program consists of theoretical studies on analysis of thermal diffusion in ground water and thermal conductivity of aquifer materials, economic analysis of cost effectiveness of the concept, design of mathematical models of typical aquifer situations in different climatic regimes, and preliminary field experiments on feasibility of operation of injection and production wells. In FY 1977, multi-cycle injection and withdrawal tests on at least two aquifer systems will have been performed. Additional test sites will have been selected and field testing different aquifer conditions will be continued in FY 1978. In FY 1977 these studies were mutually funded by the USGS and ERDA, and similar collaboration is anticipated in FY 1978.

(5) Ground Water Recharge — No program change; total, $1,250,000
No position change; total, 45

The objective of this program element is to evaluate the geological, physical, chemical, and biological controls on artificial recharge to develop: 1) methods for predicting the rate and amount of water than can be recharged to aquifers; the rock-water interactions that occur during storage, and the diffusion-dispersion phenomena that accompany water movement after emplacement, and 2) criteria for determining treatment and operating procedures that will enhance recharge.

In FY 1978, field studies will include the further development of techniques for utilizing barometric pressure changes to evaluate the effects of low permeability layers on recharge infiltration. With the development of a technique for obtaining water samples from depth in the unsaturated zone, tests will be made of the changes in water quality that occur as water moves downward below a spreading basin or moves radially outward from an injection well. Computer modeling and simulation of solute transport systems will be developed and tested.

Theoretical or empirical developments for predicting the effects of anaerobic bacteria on the operation of spreading basins will be tested by field modeling of water quality and soil changes to establish criteria for spreading basin design and maintenance. Field tests will be made of the suitability of flocculating agents to clarify playa lake water or other impounded waters. Also, field tests will be conducted to determine the duration of injection of sediment laden water into recharge wells and the effectiveness of redevelopment practices for restoring operating capacity.

Experiments will be conducted on the artificial recharge of basalt aquifers in Washington or Idaho. Whereas existing techniques for determining aquifer parameters are poorly suited for use in secondary permeability terranes, it will be necessary to develop test methods for determining the hydraulic properties of basalt aquifers. The use of selected geophysical methods will be evaluated for locating areas where the water table is overlain by material of relatively large vertical permeability. The results of these tests will aid the development of reconnaissance methods for identifying potential sites for recharge spreading basins. Studies will also be made of methods for enhancing the vertical permeability of materials above the water table by hydrofracing or other techniques. Rock-water interactions and the physical processes involved in clogging of basalt by suspended sediment will be investigated. Studies will be made of the rate and extent of bacterial movement, and the life expectancy of bacteria in basalt terranes.

Study of rock-water chemical reactions, including solution, precipitation, ion exchange, and sorption will continue in order to evaluate methods for predicting water quality changes occuring during artificial recharge, and to predict possible chemical clogging.

The workload to achieve the objectives includes one project involving field studies and laboratory investigations of recharge through wells and spreading basins to a sand and gravel aquifer in the Lubbock, Texas area. Seven other projects--including three in California, and one each in Colorado, Virginia, New Jersey, and Massachusetts--are involved with geological and physical controls on artificial recharge. Three projects, including two in California and one in Virginia, are concerned with chemical controls; and one project in California is concerned with biological controls on artificial recharge.

(6) Subsurface Waste Storage — No program change; total, $1,302,000
No position change; total, 47

The objectives of the Subsurface Waste Storage Program are to ascertain the fundamental principles of waste movement into and through the subsurface, including the chemical and physical reactions with aquifer materials and ground water, and the dilution and dispersion of pollutants in the subsurface. Other objectives include developing techniques to relate deep well injection to seismic risk, to evaluate the impacts and benefits of disposal of treated sewage on and beneath the surface, to map and describe potential disposal aquifers and associated confining beds, and to develop and test predictive models of waste movement in saturated and unsaturated environments. In 1978, mapping and description of potential disposal aquifers in the Appalachian Basin will be

completed; the potential impact of leachate from oil shale and coal mine wastes on ground water quality will be evaluated; operation of sewage disposal wells in Floridan limestone will be described and the capability for predicting waste movement and attentuation will be improved leading to better criteria for selection of waste disposal sites for various waste disposal activities. The program provides the information for local, state and national water resource managers to guide resource use, to estimate impacts of their development and disposal activities on the resource and assist them in protection of fresh water resources from unsafe disposal practices. More than 70 reports related to waste disposal and water resources will have resulted from this program by 1977 as products of completed projects and grants and from 15 concurrent projects. An additional 10 reports will be completed in 1978.

(7) Flood Hazard Mapping — No program change; total, $387,000
No position change; total, 16

Objectives of the flood hazard mapping component are to provide quickly and economically the identification of flood prone areas, and to provide simple techniques for estimating the magnitude and frequency of future flood peaks at ungaged sites (Response to recommendation 1 of the Task Force on Federal Flood Control Policy--House Document 465, 89th Congress).

Since the program started in 1969, the Geological Survey has prepared and printed over 12,000 Flood Prone Area maps and 1,000 descriptive pamphlets, and has printed about 250 maps prepared by the Soil Conservation Service. These maps identify the flood prone areas of virtually all the developed and developing areas of the Nation, but an additional 5,000 maps may be required to cover areas of potential future development, public lands where planning and management decisions are needed, and recreational lands. Flood hazard maps are being used extensively to meet local planning needs and to meet objectives of the National Flood Insurance Act of 1968, and the Flood Disaster Protection Act of 1973. In Florida alone, 200 separate requests for flood hazard maps are received each month.

Planners and designers need simple but reliable techniques for estimating the magnitude and frequency of future floods. The techniques published by the Geological Survey in 1963-65 have been used extensively by the Bureau of Reclamation, Corps of Engineers, Soil Conservation Service and numerous consulting firms for various clients, including the Department of Housing and Urban Development. These techniques will be revised to incorporate additional data and improved methods that have been developed since 1965, including methods specified by the Water Resources Council.

The current level of funding will allow preparation of about 200 new Flood Prone Area maps for areas newly identified as having urban flood problems and moderate progress toward mapping additional areas of next greatest priority; and flood frequency curves will be defined for 12,000 gaged sites as a basis for developing techniques for estimating flood peaks at ungaged sites.

(8) Estuarine Studies — No program change; total, $155,000
No position change; total, 3

The program objective is to extend hydrological science and technology to the estuaries and coastal areas thereby providing the critical information and methodology needed to plan and manage wisely the land and water resources of the rapidly developing estuarine and coastal zone (45% of the Nation's population is in this zone).

The program will support management of an interdisciplinary estuarine research task force in the core research program. This task force will collect and analyze data on water circulation, sediment, chemistry, and aquatic life in an important east coast estuary.

D. GSA Space Costs — Increase $202,000

The amount requested is to provide for increased costs of space furnished by GSA.

E. Annualization of Pay Costs — Increase $89,000

F. Reduction of In House Publications Services — Decrease -3 positions

Proposal. During FY 1978 the Geological Survey will increase the use of outside contracting for publication services provided to program activities.

5. Conservation of Lands and Minerals

FY 1977, $68,167,000; FY 1978, $72,225,000; increase, $4,058,000.
The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)	$+ 3,400,000	+23	$41,772,000	889	Outer Continental Shelf Lands - Regulation of OCS oil and gas operations/ OCS seismic risk and ocean bottom stability.
(B)	+ 428,000	+ 7	30,223,000	812	Federal and Indian Lands - Regulation of operations on Federal and Indian energy minerals.
(C)	+ 160,000	--	160,000	--	GSA space costs.
(D)	+ 70,000	--	70,000	--	Annualize increased pay costs E.O. 11941.
	$+ 4,058,000	+30	$72,225,000	1,701	

Program Synopsis

The Conservation of Lands and Minerals Program consists of (a) classification of Federally owned lands for the existence of leasable mineral deposits and for sites for development of water resources, (b) evaluation to aid in the selection of lease sales tracts and to determine the fair market value of all mineral resources offered for lease by competitive bidding, and (c) regulation and supervision of mineral prospecting, development and production operations on leased Federal, Indian, and Outer Continental Shelf (OCS) lands.

Increases in FY 1978 are requested to provide for increased workload for the regulation of OCS oil and gas operations; for the regulatory programs for coal; and to establish a new OCS program for evaluating seismic risk and ocean bottom stability.

A. Outer Continental Shelf Lands

FY 1977, $38,372,000; FY 1978, $41,772,000; increase, $3,400,000.

Major Program Changes

(1) Regulation of OCS oil and gas operations $+2,000,000; total $16,779,000
+ 20 positions, total 424

Proposal. The proposed increase will provide resources for regulating and monitoring drilling and production operations resulting from lease sales held in fiscal years 1976, 1977 and 1978, to assure protection of the environment and safety of operations, and to assure accurate and timely receipt of all royalty revenues. The requested resources will be used to expand the platform inspection system to include all OCS areas; to strengthen the lease regulatory activities in new area and district offices; and to provide additional research on construction design criteria for offshore platforms to be installed in the Gulf of Alaska and Atlantic OCS areas.

Justification. OCS regulatory requirements are dictated by the number, location and dispersion of OCS leases. During FY 1978 six sales are proposed to be held within areas of the Mid Atlantic, California, the Alaskan and Gulf of Mexico OCS. Increases are needed to enable the lease management program to expand into these areas while maintaining the current level of regulatory control and expanding the platform inspections in previously leased areas.

Cost Factors. Personnel services and benefits costs for twenty (20) positions at an annual rate of $15,000, $300,000; other costs $120,000; other contractual services, including radio communications, helicopter services and computer services, $1,580,000.

(2) OCS seismic risk and ocean bottom stability.

$+1,400,000; total, $1,400,000
+ 3 positions; total, 3

Proposal. The Geological Survey will conduct a program of sampling surface and near-surface sediments to analyze their geotechnical or engineering properties in selected areas where lease sales have been proposed. This program involves the long-term in-situ measurements of physical and chemical properties of ocean bottom sediments and interstitial water, and the effects of storms and earthquakes on the stability of the near-surface sediments. The seismic risk will be evaluated for about one-half the total OCS and the results presented in a series of maps. The effects of seismic events will be estimated for various sedimentary environments in selected lease areas.

83-561 O - 77 - 49

Justification. Subsea systems and platforms installed in sediments that exhibit poor stability characteristics, or are sensitive to motion generated by large storm waves or earthquakes, may move or fail if they are not designed to accommodate such events. Sediment instability has proven to be a problem in parts of the Gulf of Mexico, and with impending development in the Gulf of Alaska, where storm effects are significantly greater and the threat of major earthquakes is a reality, basic and applied research on the stability of sediments under dynamic conditions should be applied in offshore structure design and emplacement, including pipelines. In view of the sensitivity of the environment in the Alaskan region, it is important to develop expertise on design criteria for structures and to implement a responsible program for verification of the adequacy of drilling and production structures to withstand the forces of weather and seismicity.

Cost Factors. Personnel services and benefits costs for three (3), positions at an annual rate of $21,500, $64,500; other costs, $24,000; other contractual services, $1,311,500.

(3) All other programs — No program change; total, $23,593,000
No position change; total, 462

Program Description.

(1) Regulation of OCS oil and gas operations

$+2,000,000; total, $16,779,000.
+20 positions; total, 424

This program provides for comprehensive systematic supervision of all oil and gas drilling and production operations conducted on the OCS. It provides assurance that oil and gas operations on the OCS will be conducted as safe and pollution free as is possible, and will result in the maximum economic recovery while maintaining production consistent with resource conservation.

In FY 1976 the Department of the Interior, in order to increase short-term and intermediate-term oil and gas production, accelerated OCS lease sales (proposed lease sale areas on the OCS are shown on Figure C-1). This expansion is expected to continue in FY 1978 including the offering of tracts in frontier areas. Lease operations in most frontier areas will be subject to severe weather conditions and possible seismic events. The potential hazards make it imperative that not only the operations themselves be kept under close surveillance but that the proposals for exploration and development be reviewed in a thorough and systematic manner to insure their technical competency.

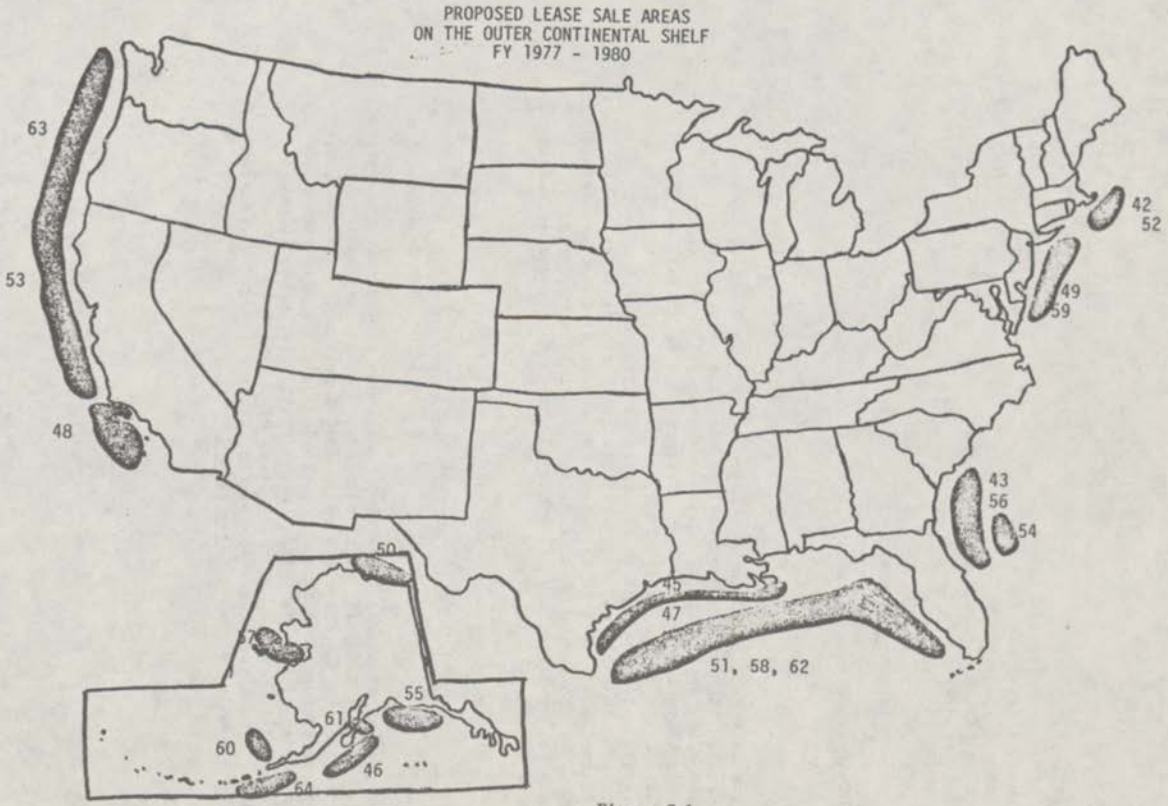

PROPOSED LEASE SALE AREAS
ON THE OUTER CONTINENTAL SHELF
FY 1977 - 1980
63
53
48
42
52
49
59
43
56
54
50
45
47
51, 58, 62
55
61
60
46
64

Figure C-1

Selected workload factors for this program for fiscal years 1977 and 1978 include:

	FY 1977	FY 1978
New wells approved	1,030	1,100
Fixed structures approved	120	120
Environmental analysis	30	60
Drilling rig inspections	1,600	2,600
Production platform inspections performed	2,800	2,800
Reservoir studies performed for MER purposes	35	45
Incidental reserve studies	175	200
Plans of development approved	180	200

(2) OCS seismic risk and ocean bottom stability.

$+1,400,000; total, $1,400,000
+ 3 positions; total, 3

The development of the Outer Continental Shelf in frontier areas carries with it many unknown problems, not the least of which is the risk of seismic activity in areas where drilling operations will occur, or where major production platforms may be installed. If seismic activity or tsunamis occur, or are likely to occur, special provisions must be made as to the types of structures that are approved for installation and their design characteristics. This new program is designed to determine the potential for these natural phenomena and to provide the necessary information on design criteria for installations to withstand possible earthquakes, sediment, and wave impacts.

(3) OCS oil and gas tract selection and evaluation.

No program change; total, $21,736,000
No position change; total, 402

The program objective is to develop background geological, geophysical, economic, and engineering data necessary to assess and support the Department of the Interior's program of OCS leasing. As part of the process to achieve this objective, the Geological Survey recommends to the Bureau of Land Management which tracts should be offered for lease sale, acceptance or rejection of bids, and prepares estimates of the resource value of each tract offered. The current leasing schedule is shown in Figure C-2.

PROPOSED OCS PLANNING SCHEDULE

January 1977
(Revises June 1975 Schedule)

SALE AREA	1976 J	A	S	O	N	D	1977 J	F	M	A	M	J	J	A	S	O	N	D	1978 J	F	M	A	M	J	J	A	S	O	N	D	1979 J	F	M	A	M	J	J	A	S	O	N	D	1980 J	F	M	A	M	J	J	A	S	O	N	D
44 Gulf of Mexico		F		N	S																																																
CI Cook Inlet		P			F		N	S																																													
47 Gulf of Mexico					E	P		F	N	S																																											
42 North Atlantic				E		P			F		N	S																																									
43 South Atlantic								E		P		F		N	S																																						
46 Kodiak									E		P			F		N	S																																				
45 Gulf of Mexico								T			E		P			F		N	S																																		
48 Southern California	C		D					T					E			P			F		N	S																																
49 Mid-Atlantic					C			D			T						E		P			F			N	S																										
Beaufort Sea (near shore)										State - Federal Sale										1/																																				
51 Gulf of Mexico								C		D			T						E		P				F		N	S																								
53 General Pacific								C		D				T						E		P				F		N	S																							
54 S. Atlantic Blake Plateau											C		D			T					E		P				F		N	S																					
50 Beaufort Sea 2/												C		D			T					E		P				F		N	S																				
55 Northern Gulf of Alaska															C		D			T					E		P			F		N	S																	
52 North Atlantic																C		D			T					E		P			F		N	S																
56 South Atlantic																			C		D			T					E		P			F		N	S												
58 Gulf of Mexico																				C		D			T					E		P			F		N	S										
57 Bering - Norton - I																							C		D			T					E		P			F		N	S						
59 Mid-Atlantic																										C		D			T					E		P			F		N	S			
60 Bering Sea St George																												C		D			T					E		P			F		N	S		
61 Cook Inlet																															C		D			T					E		P			F		N	S
62 Gulf of Mexico																																C		D			T					E		P			F		N	S
63 General Pacific																																	C		D			T					E		P			F		N	S
64 Kodiak - Aleutian																																		C		D			T					E		P			F		N	S

C - Call for Nominations
D - Nominations Due
T - Announcement of Tracts
E - Draft Environmental statement
1/ State May Conduct Sale

P - Public Hearing
F - Final Environmental Statement
N - Notice of Sale
S - Sale
2/ Within 60 Foot Isobath or Technology Capability

Sales are contingent upon technology being available for exploration and development. A decision whether to hold any of the lease sales listed will not be made until completion of all necessary studies of the environmental impact and the holding of public hearings; as a result of the environmental, technical, and economic studies employed in the decision making process, a decision may, in fact, be made not to hold any sale on this schedule.

Director, Bureau of Land Management

Figure C-2

The growth in this OCS program has been significant. The following is a summary of all lease sales for FY 1976 and the transition quarter:

Sale Number	Number of Tracts Offered	Number of Tracts Bid On	Number of Tracts Leased	Acres Leased	Total Bonus
FY 1976					
38-A	345	80	60	336,301	$ 163,214,006
35	231	70	56	310,049	417,312,141
39	189	81	76	409,057	559,836,587
41	132	41	34	161,286	175,976,493
TQ					
40	154	101	93	529,466	1,127,936,425
TOTAL	1,051	373	319	1,746,159	$2,444,275,652

The present schedule includes five sales in FY 1977, six proposed lease sales in fiscal year 1978 covering about 1.5 million acres per sale. Four of the 6 proposed FY 1978 sales will be offered in frontier areas in the Atlantic , California and the Alaska OCS. During FY 1978 180,000 line miles of non-exclusive processed CDP geophysical data and 60,000 miles of high resolution geophysical data will be acquired to aid in selecting and evaluating lease sale tracts.

(4) Reserve inventory of OCS oil and gas fields.

No program change; total, $1,332,000
No position change; total, 54

In FY 1977 the concern over accurate and defendable estimates of oil and gas reserves resulted in the introduction of a program to compile an accurate inventory of reserves in developed and developing OCS oil and gas fields. The program is designed to provide a continually updated inventory of oil and gas reserves on Federal OCS leases. This information is used by the Administration and the Congress, to plan future energy policy and regulate OCS operations. In FY 1977 determination of the reserves for approximately 75 of the 300 oil and gas fields in the Gulf of Mexico will be accomplished. Approximately 75 will be completed each subsequent year through fiscal year 1980, with reserves in those fields previously inventoried being continually updated as additional production data is obtained. The effort will be directed to other areas as development proceeds.

(5) Research on OCS operational safety devices

No program change; total, $525,000
No position change; total, 6

The objective of research on safety and anti-pollution devices is to improve operational safety and control of pollution in oil and gas operations on the OCS. A contract was entered into in FY 1976 with Harry Diamond Laboratories (HDL) of the Army Material Development and Readiness Command to develop an R&D plan for this activity which will identify gaps in industry-sponsored R&D, conceptualize their solutions, and recommend the R&D efforts to resolve the problems.

As a result of these efforts, HDL is examining communications networks; fire suppression for offshore platforms (final report due July 1977); flow meter study for offshore oil, gas, and mud flow measurement applications (first phase of the report has been completed); and inspection procedures for subsea production systems (final report on first phase due May 1977).

As frontier OCS areas are explored and developed, additional contracts will be required to find solutions to specific operational problems peculiar to these OCS areas and the more hostile environment in which the drilling and production operations will occur.

B. Federal and Indian Lands.

FY 1977, $29,795,000; FY 1978, $30,223,000; increase, $428,000.

Major Program Changes

(1) Regulation of operations on Federal and Indian energy minerals leases.

$+428,000; total, $3,809,000
+ 7 positions; total, 118

Proposal. To provide effective regulation of lease operations to insure orderly and timely coal development, protection of the environment, and receipt of a fair market royalty value for leased coal resources and to implement the requirements of new coal operation regulation (30 CFR 211) to provide for the proper supervision of coal operations on Federal and Indian lands.

Justification. The proposed FY 1978 increases will provide for supervision of increased exploration and production activities based upon the requirements of the new 30 CFR 211 Coal Regulations adopted by the Department of the Interior. This increased supervision will provide for the approval or disapproval of approximately 440 new and modified exploration and mining plans (185 in FY 1977); 2,156 inspections of active and inactive properties (905 in FY 1977); 552 Environmental Analyses (232 in FY 1977); 572 diligent development analyses (240 in FY 1977); review and approval (disapproval) of 259 lease continuance and preference right lease applications (109 in FY 1977); the preparation of 500 notices primarily in the Federal Register (210 in FY 1977); and holding 40 Public Hearings (17 in FY 1977).

Cost Factors. Personnel services and benefits costs for seven (7) positions at an annual rate of $18,600, $130,200; other costs, $42,000; other contractual services, $255,800.

(2) All other programs

No program change; total, $26,414,000
No position change; total, 694

Program Description.

(1) Regulation of operations on Federal and Indian energy mineral leases.

$+428,000; total, $3,809,000
+ 7 positions; total, 118

This program provides for regulating the work conducted by permittees and lessees on coal and uranium leases and the actions to be taken relative to development, reclamation, management, and conservation of these leasable mineral resources under the jurisdiction of the Department. The objectives of the regulatory program are to provide for orderly and timely development, protection of the environment, and receipt of a fair value in royalties from production on coal and uranium leases with emphasis on the exploration, development and production in a manner compatible with plans for the long-term use of the land for other productive purposes. Implementation of the regulations under 30 CFR 211 for the supervision of coal operations was effected in fiscal year 1977. Major workload factors for this program include:

	FY 1977	FY 1978
New and modified exploration and mining plans	185	440
Inspections of active and inactive properties	905	2,156
Environmental analysis	232	552
Review and approval (disapproval) of lease continuance and preference right lease applications	109	259
Preparation of notices primarily in the Federal Register	210	500
Holding of public meetings	17	40

(2) Regulation of operations on Federal and Indian oil and gas leases.

No program change; total, $12,964,000
No position change; total, 417

The goal of the Federal and Indian lands oil and gas lease regulatory program is to provide proper supervision of oil and gas operations on Federal and Indian leases by reviewing all prelease proposals for lease development, conducting engineering evaluations, inspections of drilling operations, managing producing operations and collecting and accounting for royalty revenues. Emphasis will be placed on streamlining operations and promulgating a comprehensive set of regulations covering the objectives, policies, procedures, and standards for inspection, enforcement, and environmental safety protection of onshore oil and gas operations.

During FY 1978, this regulatory program will provide for continuing the implementation of recommendations contained in the National Aeronautics and Space Administration's "Onshore Lease Management Program Study," and improving the performance, efficiency and management of this program while:

- Conducting 40,000 inspections of industry lease operations oriented toward exploration activities, development, production, and marketing of oil and gas (33,600 inspections in FY 1977).

- Processing 14,600 applications from industry to perform operations on Federal and Indian leases (14,000 in FY 1977).

- Collecting data and performing reservoir analyses related to reservoir performance for determining the justification for shut-in wells and the pursuit of diligent development (300 analyses will be completed in FY 1978).

- Performing the necessary (NEPA) environmental analysis of proposed operations.

- Assuring that a fair royalty value is received by the Government for the production of Federal oil and gas resources and that the royalty money is promptly collected for deposit in the U.S. Treasury (Figure C-3 shows royalties collected from OCS, Federal and Indian lands from 1960-1976).

(3) Regulation of operations on Federal oil shale leases.

No program change; total, $589,000
No position change; total, 13

The Geological Survey has the responsibility to supervise oil shale lease operations. The following operations are required to conclude the prototype leasing program on Federal oil shale lands on schedule.

- Continue all environmental and geotechnical studies required by the lease terms that are necessary if operations continue to the development and production phases.

- Implement additional environmental and operational problem area studies.

- Continue approval procedure on Detailed Development Plans.

The proposed in-situ leasing program will also require technical evaluations, studies and decisions during FY 1978.

(4) Regulation of operations on Federal and Indian geothermal leases.

No program change; total, $1,059,000
No position change; total, 32

The Geological Survey has the responsibility for the supervision of geothermal exploration, development, and production operations on geothermal leases on Federal and Indian lands and the collection of royalties and certain rentals which result from these leases. The first Federal geothermal leases were sold in January 1974, and recent tests indicate that geothermal discoveries have been made in both California and Utah.

Achievements of the program element to date include the preparation of an environmental analysis for 90 wells drilled; the issuance of six Geothermal Resources Orders (GRO); completion of 498 inspections and the completion of 17 wells on Federal lands that are capable of producing commercial quantities of hot water and/or steam.

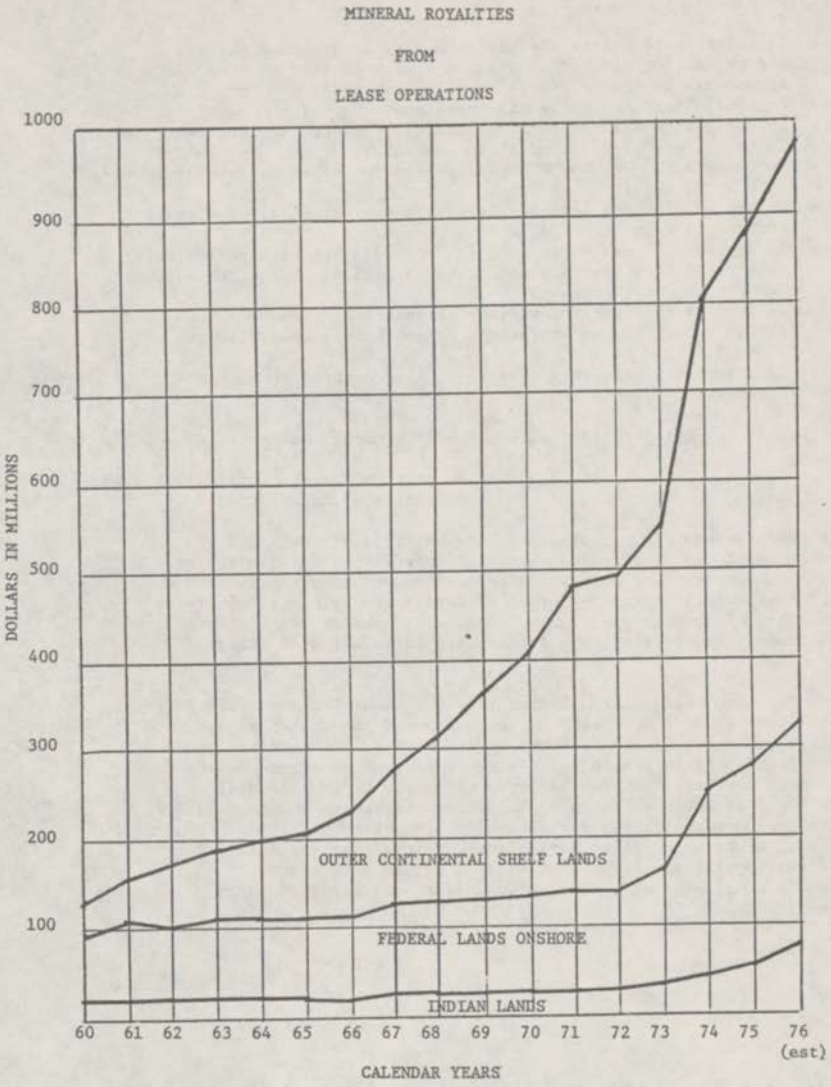


Figure C-3

GS-112

Specific outputs planned in FY 1978 are:

- o To properly supervise the geothermal exploration, drilling, and production activities which may be conducted on some 750 geothermal leases on Federal and Indian lands.
- o To assure that the activities mentioned above are conducted in accordance with operational and environmental guidelines.
- o To maintain 100 producing lease accounts.
- o To perform 175 environmental analyses prior to lease development (150 in FY 1977).
- o To process 500 applications involving various lease development actions (400 in FY 1977).
- o To approve 175 new wells (150 in FY 1977) that will most likely be located in California and Utah and possibly Idaho, Nevada, New Mexico, and Oregon.
- o To perform 75 lease inspections to assure environmental and safety integrity for operations on geothermal lands (50 in FY 1977).
- o To assure the fair royalty return for geothermal resources produced.

(5) Regulation of operations on non-energy mineral leases.

No program change; total, $1,564,000
No position change; total, 49

This program consists of actions taken and decisions made for the regulation of exploratory and extractive operations for non-energy minerals undertaken by industry after leases and 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 return for all leased mineral deposits.

Production from Federal and Indian leases account for about 11, 87 and 57 percent of the total U.S. production of phosphate, potash, and sodium, respectively as shown in Figure C-4. Production from leased lands has 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, additional predevelopment evaluation, environmental analyses and statements on proposed work plans submitted for approval, and additional inspections that will be required to assure lessee's compliance with laws, regulations, and terms of their leases.

PRODUCTION FROM FEDERAL, INDIAN, AND OCS LANDS AS PERCENTAGE OF TOTAL U.S. PRODUCTION 1976

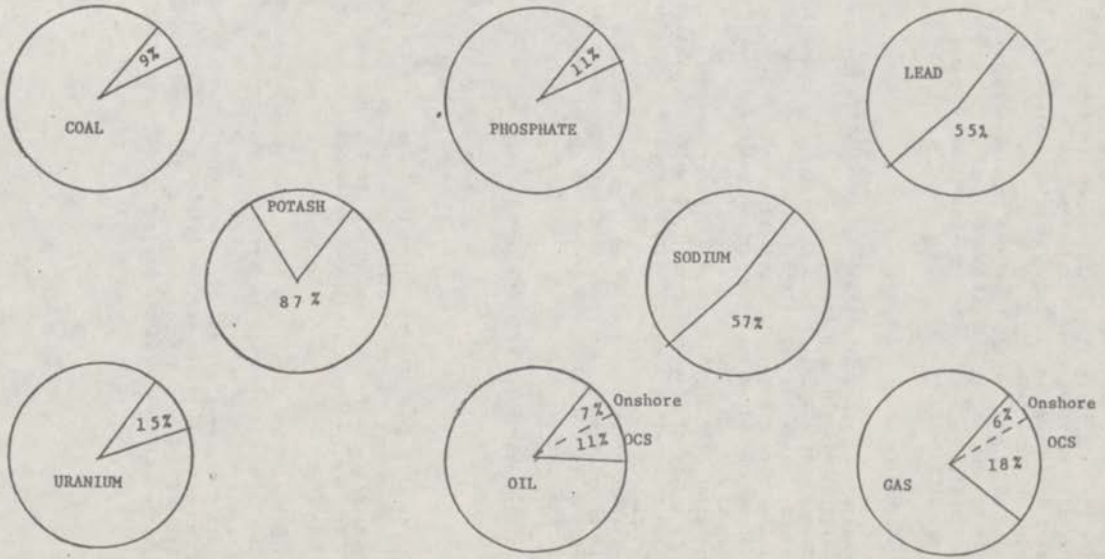


Figure C-4

Accomplishments of the program to date are:

- o Completion of studies leading to a clearer understanding of the lessee's obligations with respect to mineral values for royalty purposes which will assure fair return to the Federal Government and Indian tribes for leased lands (potash, sodium, lead, zinc).
- o Resolution of the multiple land use problem involving conflicts between oil and gas lessees and potash operators in Carlsbad, New Mexico, through guidelines prepared by the Geological Survey.

The output planned in FY 1978 includes:

- o Processing and approval of 335 (305 in FY 1977) new and modified exploration and mining plans.
- o Performance of 2,270 (1,620 in FY 1977) field inspections of producing leases and active and inactive leases and permits, including participating in technical examinations with surface management agencies prior to issuance of lease or permit.
- o Preparation of 275 (250 in FY 1977) environmental analyses of the impact of industry operating proposals to determine whether approval is a major Federal action requiring preparation of an EIS.
- o Preparation of recommendations on terms for inclusion in leases that are being continued for additional periods and determine whether permittee has earned a right to a preference right lease (160 per year).

(6) Oil and gas lease tract selection and evaluation.

No program change; total, $334,000
No position change; total, 12

The specific objectives of the onshore oil and gas resource evaluation and classification program are to classify Federal lands proposed for disposal or exchange as to their potential for oil and gas, and to evaluate Federal land oil and gas lease tracts offered for sale by competitive bidding.

To accomplish these objectives, the fair value of an estimated 450 lease tracts in FY 1978 will be determined while providing land management agencies (such as Bureau of Land Management, Fish and Wildlife) with reports of oil and gas values on all land being considered for exchange, disposal or multiple use. The evaluation of these leases is performed through the designation of Known Geologic Structures (KGS's) and the projection of these structures

into the specific leases being evaluated. In FY 1977, 60 KGS's will be established with an estimated 60 projected for FY 1978. A total of 70 tracts will be evaluated during FY 1977 with the same total projected for FY 1978. A total of 300 mineral reports will be issued in FY 1977 with the same number projected for FY 1978.

(7) Coal land classification and evaluation.

No program change; total, $7,803,000
No position change; total, 113

The Geological Survey has the responsibility to provide the basic data on coal resources required by the Bureau of Land Management (BLM) to identify values and develop resource priorities for multiple use planning units prior to establishment of coal leasing schedules. These data are obtained through the coal classification and evaluation program and are used for reporting on coal values on Federal land to other agencies for land disposal and exchange cases, providing information pertinent to pending legislation, evaluation of coal lease sale tracts, and the definition and analysis of Known Coal Leasing Areas (KCLA). To implement the Secretary's new coal policy, the Geological Survey provides maps 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 Management Framework Plans (MFP).

Major workload in support of this program includes:

	FY 1977	FY 1978
Definition of KCLA's	10	15
Coal Resource Occurrence & Coal Development Potential Maps	210	210
Preference rights leases	55	110
Mineral reports	300	320
Test drilling holes	1,255	1,255

(8) Oil shale classification and evaluation.

No program change; total, $306,000
No position change; total, 4

This program will provide classification and evaluation of oil shale lands for exchange to expedite development, evaluation of oil shale tracts for competitive lease sale, and resource classification for reporting of oil shale values to other agencies in cases of disposal or exchange of lands.

(9) Classification and evaluation of geothermal lands and resources.

No program change; total, $1,002,000
No position change; total,26

The Geothermal Steam Act of 1970 provides for the development, by private industry, of Federally owned geothermal resources through competitive and non-competitive leases. In order to comply with this Act, the Federal Government must have an effective program of geothermal resource classification and evaluation to provide for prudent disposal of geothermal rights through land exchange, disposal, or leasing. This program also includes reports to other agencies on geothermal values.

The emphasis of the FY 1978 program will be:

- o To determine the fair market value of about 25 individual lease sales (20 tracts per sale) in prospective geothermal areas (25 in FY 1977).
- o To prepare 280 tract evaluation reports for the Bureau of Land Management prior to actual sales (280 in FY 1977).
- o To prepare 320 mineral reports for other Federal agencies (300 in FY 1977).
- o To provide the geologic information necessary for regulating and supervising the lands under lease.

(10) Classification and evaluation of non-energy mineral lands and resources.

No program change; total, $299,000
No position change; total, 8

The U.S. Geological Survey classifies and evaluates leasable non-energy mineral lands. The classification and evaluation of unleased non-energy minerals on Federal lands, such as phosphate, potash, and sodium, will be emphasized in FY 1978 in order that leasing schedules consistent with resource demands can be established to help improve our domestic supplies.

Expansion of active operations on Federal leaseholds is accelerating to meet the National demand for these mineral resources. Therefore, the Geological Survey must be prepared to evaluate these Federal resources in response to applications for leases as well as to report the mineral values of tracts being disposed of through land exchanges, sales, or Congressional actions. This must be done for purposes of reserving to the Government the right to these mineral commodities in land disposal

actions and to assure orderly and timely resource development, including the encouragement of maximum ultimate recovery of the mineral deposit in the interest of conservation. There will also be a need to acquire basic geological data to meet the regulatory and inspection requirements of the increased industry activity.

Other planned outputs for FY 1978 are:

- o Inventory reserves of potash, phosphate, and sodium on 5% of Federal non-energy leases 35,000 acres - (35,000 acres in FY 1977).
- o Improvement of information to land managing agencies, including BLM in all cases of land exchange, disposal, and multiple use planning.
- o Definition of twelve (12) known leasing areas,1 million acres - (5 million acres in FY 1977).

(11) Land classification and evaluation for water resource development.

No program change; total, $494,000
No position change; total, 20

The primary mission of the program is to designate Federal lands which have waterpower or reservoir site potential and to classify and evaluate the lands as to their potential waterpower and reservoir value. This is done in order to reserve to the Government the right to authorize or license water resource developments on such designated Federal lands.

In 1965, a twenty-year (20) review program was established to review classifications made on Federal lands since the early 1900's. The purpose of the review program is to assess the potential waterpower and reservoir value. If the land previously classified as having waterpower or reservoir potential is found to no longer have value by today's standards the land is recommended for restoration and is no longer so encumbered.

At the end of Fiscal Year 1965 it was determined that 6,900,000 acres of previously classified land should be studied to determine if the classifications were still warranted. Since the review program in 1965, approximately 1,785,685 acres have been studied and action initiated to change the classification where warranted. At the end of FY 1977 it is estimated that 5,572,000 acres remain to be studied to complete the objectives of the program.

Users of information from this program include the Federal Power Commission, Alaska Power Administration, Bureau of Land Management, Forest Service, Corp of Engineers, Bureau of Reclamation, other power and planning agencies, the power industry, and the interested public.

83-561 O - 77 - 50

C. GSA Space Costs

Increase $160,000

The amount requested is to provide for increased costs of space furnished by GSA.

D. Annualization of Pay Costs

Increase $70,000

6. Land Information and Analysis

FY 1977, $17,718,000; Fy 1978, $17,986,000: increase, $268,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)	$ --	--	$9,545,000	45	Earth Resources Observation Systems
(B)	--	--	3,192,000	68	Environmental Impact Analysis
(C)	--	--	2,527,000	34	Geography
(D)	+250,000	+2	2,704,000	54	Land Resource Data Applications
(E)	+ 3,000	--	3,000	--	GSA space costs.
(F)	+ 15,000	--	15,000		Annualize increased pay costs E.O. 11941.
(G)	--	-1	--	--	Reduction of in-house publications services.
	$+268,000	+1	$17,986,000	201	

Program Synopsis

A principal objective of the Land Information and Analysis activity is to provide multidisciplinary earth-science and other natural-science information, in appropriate language and formats, to facilitate land-resource decisionmaking at all levels of government and in the private sector. The work of the Office, much of which is done in cooperation with numerous State and Federal agencies, includes research on applications of remote sensing technology; processing and distribution of Landsat data acquired by NASA and aerial photography data acquired mainly by the Geological Survey; preparation and review of environmental impact statements and related research; preparation of interpretive reports, maps, charts, and methodological guidebooks needed for effective land-resource management; sponsoring and conducting formal technology transfer activities such as training sessions, workshops, and seminars mainly for personnel of Federal and State agencies; preparation of current land-use maps of the entire United States, related applied studies in interpretive geography, and geographic data-base development and application.

The increase is to develop information and products in support of land-resource and environmental decisionmaking mandated by Federal legislation (the National Environmental Policy Act, the Coastal Zone Management Act, the Federal Coal Leasing Amendments Act of 1975, the Disaster Relief Act of 1974, etc.).

A. Earth Resources Observation Systems (EROS) Program

FY 1977, $9,545,000; FY 1978, $9,545,000; No change

Program Description

No program change; total, $9,545,000
No position change; total, 45

(1) Data production and dissemination

The EROS Data Center (EDC), located northeast of Sioux Falls, South Dakota, is operated by the EROS Program to provide access to NASA's Landsat imagery, aerial photography acquired by the Department of the Interior, and photography and imagery acquired by NASA from research aircraft and from Skylab, Apollo, and Gemini spacecraft. A central computer complex which controls a data base of over six million images and photographs of the Earth's surface features, performs searches for imagery of specific geographic areas of interest, and serves as a management tool for the entire data archival, reproduction, and dissemination process. Archives at the EROS Data Center as of June 1976 include approximately 845,000 items of Landsat and other satellite imagery, 1,900,000 items of NASA aircraft imagery, and 3,750,000 items of aerial photography. By 1978, the amount of archived data is expected to increase by 10 percent. Over 41,000 inquiries on data availability were processed in FY 1976 resulting in receipt of more than 27,000 orders. Value of data ordered in FY 1976 was approximately $2,500,000 ($375,000 in FY 1973, $837,000 in FY 1974, and $1,610,000 in FY 1975) and is projected to be $3,650,000 in FY 1977, and $4,500,000 in FY 1978 (Figures L-1, L-2). A product price increase effective January 1, 1977 will result in an estimated increase in the value of data ordered of about $1,000,000 on an annual basis.

A digital image processing system (EDIPS) to produce improved quality data products for Landsat images will be placed into service in FY 1978 to support Landsat-C which will be launched in November 1977. This all-digital system was procured in FY 1976 and will be delivered in mid FY 1978. Initial operations with this system are planned for later in FY 1978.

(2) User assistance, training, and technology transfer

User assistance, training and technology transfer activities are conducted at the EROS Data Center as well as at Applications Assistance Facilities elsewhere in the U. S. and the Canal Zone. In FY 1976, the EROS Data Center conducted formal remote sensing workshops and orientation sessions for 178 Department of the Interior employees, 63 employees from other Federal agencies, 130 foreign participants (sponsored by AID, USIA, and/or foreign governments), 170 State and local government employees, and 179 trainees from other organizations such as the InterAmerican Development Bank, United Nations, and the American Institute of Mining Engineers.

During FY 1976, the Applications Assistance Facility at Bay St. Louis, Mississippi, presented 24 remote sensing workshops to a total of nearly 250 participants from Federal, State, and local groups mainly from the southeastern U. S. Several thousand visitors sought and received technical assistance in the application of remotely sensed data from the EROS Data Center and the Applications Assistance Facilities during FY 1976.

In FY 1978, close collaboration is planned with (1) the Bureaus of Reclamation and Land Management, both of which are installing interactive digital computer systems in Denver for routine use of Landsat in monitoring land cover change in their jurisdictions, (2) the Bureau of Mines in evaluating possible operational uses of Landsat for monitoring

GS-121

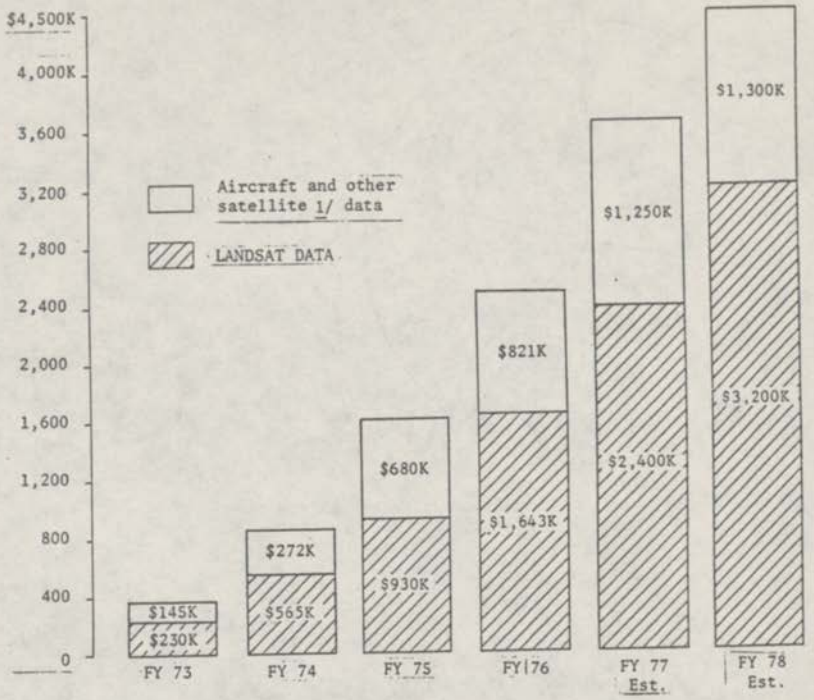


Figure L-1. Value of data products ordered from the EROS Data Center during Fiscal Years 1973-1978.

1/ Gemini, Apollo, and Skylab data

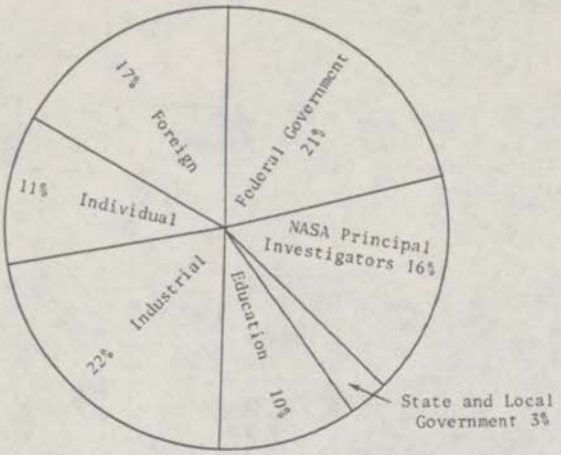


Figure L-2.--Customer profile of orders for data from the EROS Data Center - $2.5 million, FY 1976.

strip mine change, and (3) the Fish and Wildlife Service in the experimental use of Landsat and future capabilities such as the Synthetic Aperture Radar on Seasat, to monitor nesting conditions for migratory waterfowl.

(3) Applications demonstration and research

Emphasis during current and prior fiscal years has been aimed at evaluating Landsat data for possible operational management and scientific investigation missions of the Department.

Examples of researched applications studied include: (a) mapping floods and measuring extent of land cover categories flooded; (b) analyzing vegetation and surface-water features in coastal and interior wetlands; (c) surveillance of long term worldwide changes in the regimes of active volcanoes, rivers and streams, and glaciers; (d) determining short term changes in the depth of surface water, extent of snow cover, cropland vegetation, and sea ice dynamics; (e) analyzing regional geologic structure and related information of direct importance in prospecting for new deposits of metallic and nonmetallic minerals and petroleum; and (f) compilation of image maps at scales as large as 1:250,000. Other Federal agencies applying Landsat data are the Departments of Agriculture, Commerce, Defense, and State, the Environmental Protection Agency, and NASA. Many of these applications are described in the new Geological Survey Professional Paper 929 entitled, "ERTS-1, A New Window on Our Planet."

Application studies to be continued or completed in FY 1978 include: (a) experimental use of Landsat imagery for producing land systems maps which are used to assess land use potential; (b) a resource inventory of Idaho, Oregon, and Washington in cooperation with NASA and the Pacific Northwest Regional Commission; (c) development of techniques for routine systematic monitoring of strip mine change using Landsat in cooperation with the Bureau of Mines; (d) a Landsat Application Systems Verification Test (ASVT) for classification of range and forest vegetation in cooperation with NASA and the Bureau of Land Management; (e) determining the relevancy of Seasat, Magsat, Landsat-C (specifically the thermal band), and other satellites to Department of the Interior research and management functions; and (f) study of luminescence as a means for identifying a variety of natural and manmade materials such as phosphate rock, oil seeps and spills, stressed vegetation, and industrial pollutants.

B. Environmental Impact Analysis

FY 1977, $3,192,000; FY 1978, $3,192,000; No change

Program Description

No program change; total, $3,192,000
No position change; total, 68

The Environmental Impact Analysis (EIA) Program integrates the preparation and review of environmental impact statements (EIS) in the Geological Survey. Through these functions the program contributes to the critical goals of the National Environmental Policy Act (NEPA), including the achievement of a balance between resource development and the preservation of environmental quality. The impact statements prepared are required by the Secretary of the Interior and other decisionmakers as background for decisions on leasing, mineral exploration and development, and plant construction directly related to national issues of energy and critical minerals. The review and analysis of statements prepared by other agencies is designed to assure full consideration of factors within the Geological Survey's areas of jurisdiction and expertise, as provided for by the guidelines of the Council on Environmental Quality.

The program provides direction, coordination, and expertise in the preparation of statements for which the Survey has lead responsibility; and provides technical information and expertise to support the preparation of statements under other-agency lead responsibility. Preparation requirements are in most cases externally generated, as by applicant proposals, and mandated under provisions of NEPA. Currently more than 85 percent of the statements are energy related. Principally involved are the development of onshore coal, oil, gas, oil shale, uranium, and geothermal resources; offshore oil and gas resources; and projects involving minemouth electric generating plants and related transmission lines, pipelines, and water supply. The remaining statements are concerned with critical minerals such as phosphate (for fertilizers).

Budgetary resources for FY 1978 will permit continuation of the FY 1977 level of effort for both preparation and review. The preparation effort has been increasing at an annual rate of 30 percent, and this rate is expected to continue at least through FY 1977. The review effort is expected to remain constant, at the FY 1976 level, through FY 1978. Actual and estimated numbers of impact statements in work are tabulated below. A notable trend in the past year has been the increased proportion of effort devoted to regional EIS. Preparation of regional EIS normally require a substantial, often as much as a 10-fold, increase in expenditure of resources as compared with other kinds of EIS.

		FY 1976 (actual)	FY 1977 (estimated)	FY 1978 (estimated)
Preparation:	(GS-lead)	16	17	17
	Regional	1	7	7
	Site specific	13	10	10
	Regulatory	2	0	0
	(non-lead)	14	18	18
	Regional	2	8	8
	Site specific	12	10	10
Review:		2,250	2,200	2,200

Besides the preparation and review of environmental impact statements, the EIA Program provides training and guidance for the Survey's NEPA-related activities; 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 program.

Current and imminent task force preparation efforts in which the Geological Survey is involved are as follows (Figure L-3):

GS-Lead	Non-Lead
North Powder River regional coal, Montana	West-central North Dakota regional coal
Central Utah regional coal	Hanna Basin-Atlantic Rim regional coal, Wyoming
Southern Utah regional coal	Sweetwater-Kemmerer regional Wyoming
West-central Colorado regional coal	Northwest Colorado regional coal

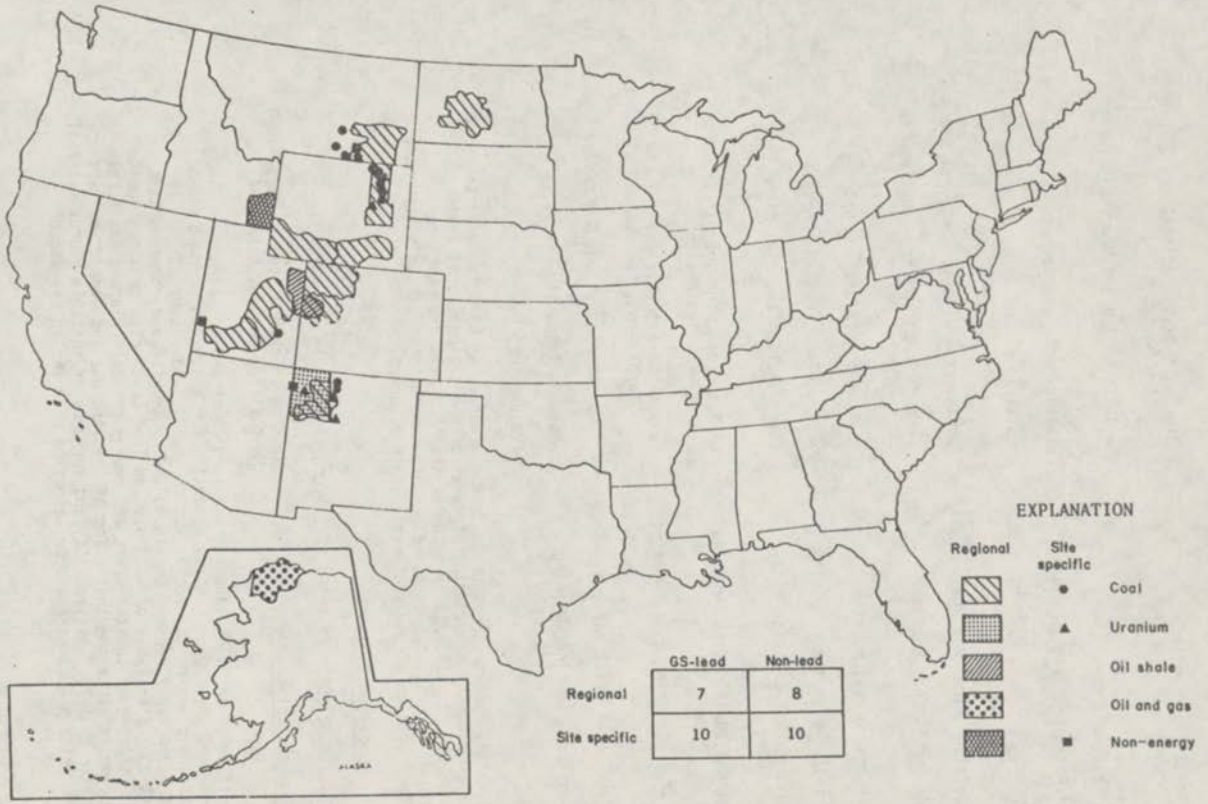


Figure L-3.--Locations of EIS's in preparation or anticipated in FY 1977.

GS-126

Southeast-Idaho regional phosphate

Oil shale tract leasing, Colorado/Utah

Naval Petroleum Reserve Alaska

Bear Creek uranium, Wyoming

Westmoreland mine, Montana

Youngs Creek mine, Montana

Decker coal mines, Montana

Amax Eagle Butte mine, Wyoming

Kerr-McGee East Gillette mine, Wyoming

Carter Oil Caballo mine, Wyoming

Mobil-Consolidation mine, Wyoming

A. R. Co. Coal Creek mine, Wyoming

Peabody Rochelle mine, Wyoming

Star Lake-Bisti regional coal, New Mexico

Alunite mining and processing, Utah

Navajo-Hopi land dispute

Colstrip #3 and #4 power transmission line, Montana

Northwest New Mexico regional study

Eastern Powder River - supplement, Wyoming

Northwest Colorado - supplement

Westmoreland leasing, Montana

Emery station and coal mine, Utah

El Paso coal mine and gasification plant, New Mexico

Navajo-consolidated coal mine supplement, New Mexico

Navajo Exxon uranium, New Mexico

Anaconda mine, New Mexico

TVA uranium, New Mexico

Reimbursable budgetary resources from the Bureau of Land Management are supporting the preparation of seven of the regional coal leasing EIS's during FY 1977. It is expected that BLM reimbursement for FY 1978 will permit the continuation and completion of these statements, and the inception of new statements in this series.

C. Geography

FY 1977, $2,527,000; FY 1978, $2,527,000; No program change

Program Description

No program change; total, $2,527,000
No position change; total, 34

Information on existing land use and land cover and on changes in land use and land cover over time is essential for analyzing current demands on land and planning for better future use of land resources. In FY 1977 the Geography Program continued the systematic and comprehensive collection and analysis of land use and land cover data on a nationwide basis. Mapping of coastal areas and energy production areas has received high priority since the initiation of the land use and land cover mapping program in FY 1975. Availability and currency of suitable source materials are the principal constraints on selection of areas to be mapped.

Specific objectives are to:

- Compile land use and land cover maps for public release at 1:250,000 scale, and at 1:100,000 scale where such new intermediate scale maps are available.

- Demonstrate techniques for land use and land cover mapping at larger scales and with different combinations of remotely sensed data when needed to complement smaller scale mapping.

- Determine trends in land use and land cover based on a statistical analysis of current land use and land cover maps. 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, areas undergoing energy development, and areas where urban expansion may adversely affect environmental quality.

In FY 1978, approximately 400,000 square miles will be mapped, which brings the total mapped area to about 1,500,000 square miles or 41 percent of the Nation (Figure L-4). Specific products being provided are: maps showing current land use and land cover at a scale of 1:250,000 and 1:100,000; demonstration maps at larger scales such as 1:24,000 and 1:50,000 for selected areas; statistical data on land use and land cover; and analytical studies on land use and land cover patterns, trends, and changes.

The Geography Program links and integrates social science information and the techniques of geographic analysis with earth science information collected by the Geological Survey. Activities of the program include:

(1) Land use and land cover map and data production. Ninety-two land use and land cover maps covering a total of 700,000 square miles had been released to the open file and made available to the public by the end of September 1976. By the end of FY 1977, 150 maps covering a total of about 1,100,000 square miles will be available to the public. Output through FY 1977 from the geographic information system being developed for handling land use and land cover data includes statistical data summaries by counties, watersheds, Census county subdivisions, and Federally owned land, for Arkansas, Louisiana, Kansas, Florida, Pennsylvania, West Virginia, Alabama, and part of Georgia. Map and data production for these States were completed under cooperative cost sharing arrangements.

(2) Production of experimental and demonstration land use and land cover maps included (a) mapping of a part of the Atlanta Metropolitan Region under cooperative arrangements with the State of Georgia and in support of data needs for the Geological Survey's Chattahoochee River Quality Assessment; (b) mapping land use change in the phosphate mining area of southeastern Idaho; (c) land use change map of the Washington, D.C. area, 1970-72; (d) land use and land cover map of the Washington, D.C. area from Landsat data; and (e) land use and land cover mapping with Landsat data in the Puget Sound area in collaboration with the Pacific Northwest Regional Commission, local planning agencies, NASA, and the EROS Data Center.

(3) Publication of USGS Professional Paper 964, A Land Use and Land Cover Classification System for Use With Remote Sensor Data. In addition, final reports for the Central Atlantic Regional Ecological Test Site (CARETS) Project dealing with land use climatology, regional analysis, and geographic information system development were completed. Geological

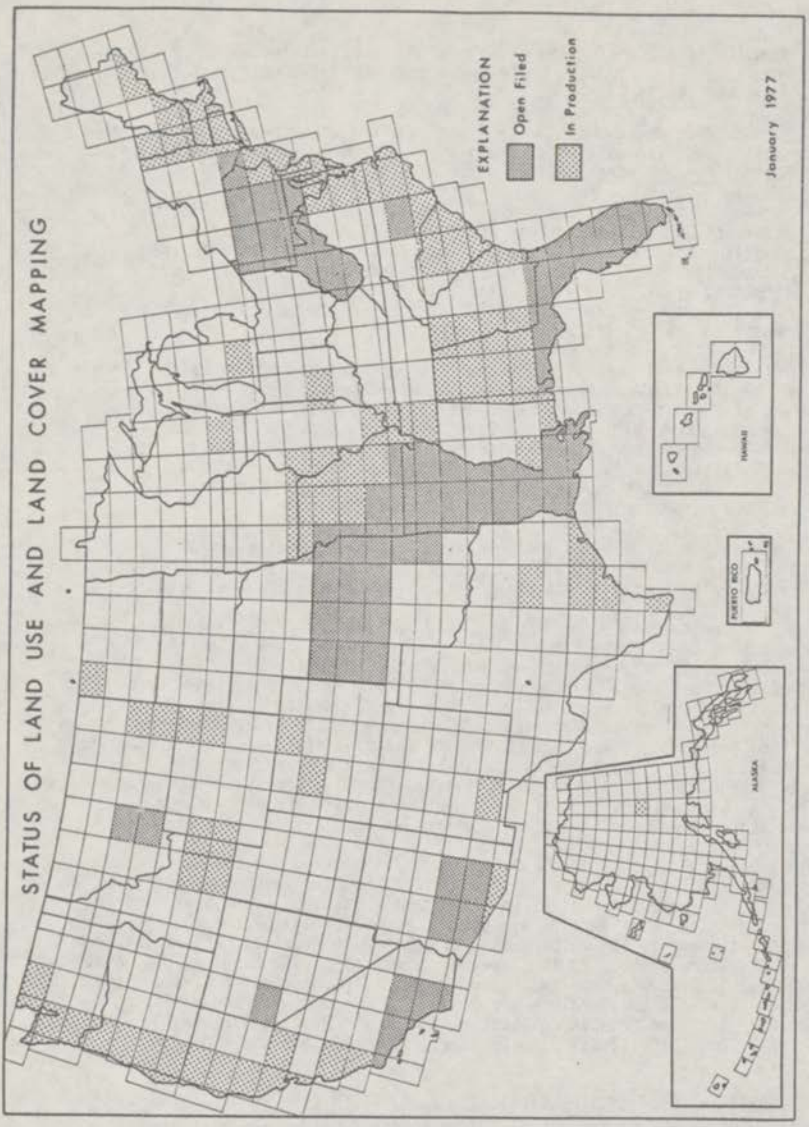

STATUS OF LAND USE AND LAND COVER MAPPING
EXPLANATION
Open Filed
In Production
January 1977
HAWAII
PUERTO RICO
ALASKA

Figure L-4

Survey Journal of Research articles are in press or review (September 1976) on such subjects as "Land Use and Land Cover Change--A Framework for Monitoring," "GIRAS: A Geographic Information System for Handling Land Use and Land Cover Data," and "Accuracy and Consistency Comparisons of Land Use Maps Made from High-Altitude Aircraft Photography and Landsat Imagery."

Technical assistance has been provided to users of Geological Survey land use and land cover data and maps, and data in computer compatible format. Also, assistance has been provided to the U.S. Fish and Wildlife Service, the Bureau of Outdoor Recreation, Forest Service, Soil Conservation Service, Environmental Protection Agency, Appalachian Regional Commission, Ozarks Regional Commission, Pacific Northwest Regional Commission, Four Corners Regional Commission, and many State and local agencies to help in the use of the Survey's land use and land cover data in their resource management and planning.

D. Land Resource Data Applications

FY 1977, $2,454,000; FY 1978, $2,704,000; increase, $250,000.

Major Program Changes

Land Resource Data Applications	$+250,000; total, $2,704,000 + 2 positions; total, 54

Proposal. Land Resource Data Applications is a new subactivity that combines two subactivities described in the FY 1977 budget--Earth Sciences Applications, and Resource and Land Investigations. The Earth Sciences Applications Program has involved pilot studies to demonstrate the application of earth-science disciplines of the Geological Survey to land-resource, hazard, and environmental problems, largely in urban areas. The Resource and Land Investigations Program has been involved in Department-wide, multibureau, and multidisciplinary studies for the development of methodological guidebooks in support of the land management responsibilities of the Department of the Interior. Both former subactivities are oriented toward similar objectives--the application of earth- and natural-science data to the solution of critical national energy and land-resource management problems--and hence are appropriately combined under the new subactivity, Land Resource Data Applications.

The increase is needed to enable the Survey to meet rapidly increasing demands by other Federal, State, and local agencies, as well as business, industry, academia and the general public, for interpreted scientific information, and to assist in applying such data to land-resource and environmental problems. Specifically the increase will permit the extension of the on-going New England-based study of onshore impacts of OCS development to other areas of the country, such as Alaska and the South Atlantic coastal areas; and will fund the initiation of a study of interrelated resource development, planning and reclamation issues brought about by the demand for coal resources in the Northern Great Plains region. Outputs of these studies will include reports on information requirements for effective analysis and decisionmaking, planning and impact (environmental and socioeconomic) methodologies, and potential conflicts between Federal, State, and local laws, rules, and regulations. Demands for such information to support planning and management decisions are stimulated in large part by recently mandated Federal programs such as the HUD Community Development Block Grants/Entitlement Grants and Comprehensive Planning and Assistance Programs, National

Flood Insurance Program, Disaster Relief Act, EPA-208 Program, Commerce's Coastal Zone Management Program, Coal Leasing Amendments Act, and by related State and local legislation and regulations. Current land-resources research and data-collection activities of the Geological Survey will be applied to better meet these demands. Technical assistance in using existing land-resource data will be extended to responsible State agencies making land-resource decisions. Where such data are not available from the Geological Survey, these agencies will be advised of alternative sources.

Justification. Growth in these Federal and Federally stimulated programs has increased the need for interpretive land resources data for resource management and planning. A number of Federal agencies and State and local governments have urged the expansion of Geological Survey capabilities in developing and assisting in the application of multidisciplinary expertise to land-resource and environmental decisionmaking. Figures L-5 and L-6 indicate the wide range of uses and users of Land Resource Data Applications products in the San Francisco Bay region. Recent reviews of the data requirements of State planning and regulatory agencies indicate a strong need to provide States with a single source of information as to the availability of existing data and methods of collecting, interpreting, and applying earth- and natural-science information to land-resource management, especially as related to Federally mandated and funded programs. A vast amount of urgently needed land-resource information either is not available or, where available, is not being effectively utilized because State and local governments often lack expertise in interpreting the data and applying it to land-resource management problems.

Cost Factors. Personnel services and benefits costs for 2 positions at an annual rate of $24,500, $49,000; other costs, $6,000; contracts and grants, $180,000; miscellaneous, $15,000.

Program Description. $+250,000; total, $2,704,000
+ 2 positions; total, 54

The objective of the Land Resource Data Applications Program is to develop an awareness and better application of earth- and other natural-science information in support of planning, decisionmaking, and management of the Nation's land resources. This is accomplished by (1) providing multidisciplinary earth- and natural-science baseline and interpretive data in new and understandable formats for nontechnical users; (2) developing methodological guidebooks, technical manuals, and innovative techniques for data presentation; (3) assisting data users and decisionmakers in applying such information; and (4) reviewing data needs of Federal, State, and local agencies for land-resource decisions as a means of guiding land-resources research and data collection activities.

Specific program accomplishments in FY 1977 and activities proposed in FY 1978 include:

(1) Greatly expanded data collection and analysis of land resource information in the Puget Sound region in support of Federal, State, and local agencies. These agencies are faced with decisions on the location and construction of facilities to support energy exploration and development related to storage, processing, and

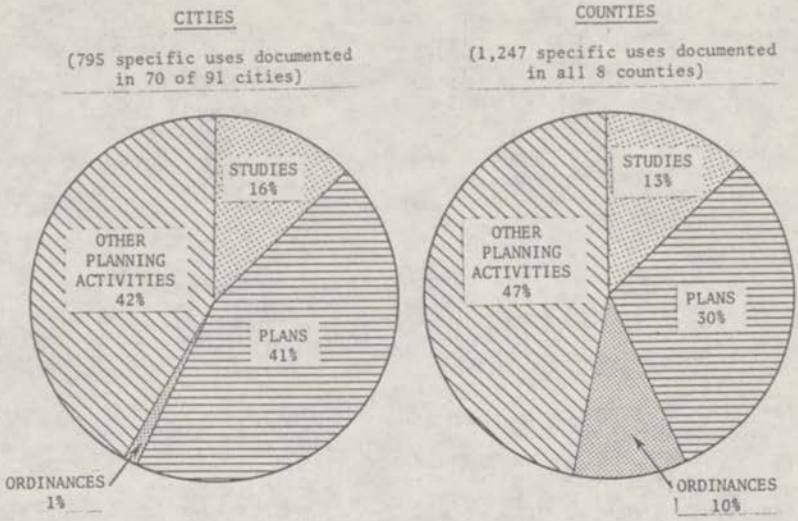


Figure L-5:--City and county planning uses of Land Resource Data Application products in the San Francisco Bay region.

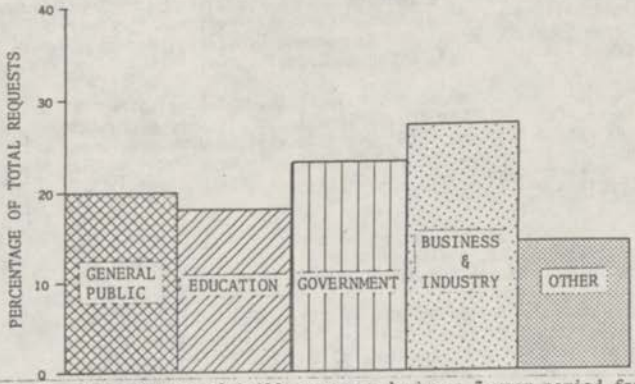


Figure L-6:--Distribution of 4,400 requests during a 3-year period for reports on active earthquake faults in the San Francisco Bay region.

transportation of oil and gas to be imported from Alaska. Workshops for, and technical assistance to State, regional, and local decision-makers in the Puget Sound region will focus on land resource opportunities and constraints in siting of energy related facilities and developments. These will begin in FY 1977 and continue through FY 1978.

Completion in FY 1977 of analyses of geologic and hydrologic conditions that determine feasibility of tunneling for rapid-transit systems in Los Angeles and Minneapolis-St. Paul on behalf of the Department of Transportation.

Publication in FY 1977 of the results of comprehensive interpretive land resource studies of the Baltimore-Washington, Connecticut Valley, Pittsburgh, San Francisco Bay, and Tucson-Phoenix urban areas; similar studies of the Colorado Front Range Urban Corridor and Fairfax County, Virginia, will be largely completed in FY 1978, and new studies are projected in other states requesting cooperative programs.

Completion in FY 1977 and publication in FY 1978 of an evaluation of the use of land resource data for decisionmaking in the nine-county San Francisco Bay region, based on documented applications of over 100 maps and reports. An atlas demonstrating nation-wide applications of land resource information in land and water management decisions in six model areas will be published and distributed in FY 1977.

(2) Review in FY 1978 of the type, scale, and format of land-resource data required to support planning and management decisions mandated by Federal programs (such as the Community Development Block Grants/Entitlement Grants; Comprehensive Planning and Assistance; Federal Flood Insurance; Construction Grants for Waste Water Treatments Works; Water Pollution Control-Area Wide Waste Treatment Management Planning Grants; and Coastal Zone Management Programs), and by related State and local legislation and regulations.

Assistance will be extended to Federal, State, and local governments in both FY 1977 and 1978, in the application of land resource data to land resource decisions. Existing data will be provided, where available, alternative sources of new data will be recommended, and requests for reimbursable programs to acquire interpretive data will be considered.

Analysis of the adequacy of current land resource research and data collection activities to devise ways of better meeting Federal, State, and local data requirements.

(3) Undertaking case studies in FY 1978 on (1) forest management problems in areas adjoining the Redwoods National Park (with the NPS), and (2) the application of computer models to planning for western coal development in Campbell County, Wyoming. Information needs will be identified and analyzed in workshops related to onshore impacts of OCS development (partially EPA funded), the assessment of environmental impacts related to western coal development, and the results of the Bureau of Indian Affairs case study on computer-assisted natural resource planning. These and other workshops will be conducted in both FY 1977 and FY 1978 to transfer the results of studies on critical environmental areas and State land and resource inventory systems.

Coordination of USGS responses to States' requests for information and technical assistance related to their development and implementation of Coastal Zone Management plans and programs, initiated in FY 1976 in coordination with NOAA, will continue through FY 1977 and FY 1978.

Compilation of a catalog of DOI information sources in cooperation with the DOI Office of Library Services, and publication of a directory of USGS programs in coastal areas. A computer methodology that automates the creation of onshore development scenarios, given various rates and quantities of OCS oil and gas discoveries, will be published.

Preparation in both FY 1977 and FY 1978, of methodological guidebooks concerning State surface mine reclamation programs, siting of onshore facilities associated with OCS development, and the environmental impact assessment process.

E. GSA Space Cost — Increase $3,000

The amount requested is to provide for increased costs of space furnished by GSA.

F. Annualization of Pay Costs — Increase of $15,000

G. Reduction of in-house Publications Services — Decrease of 1 position

Proposal. During FY 1978 the Geological Survey will increase the use of outside contracting for publication services provided to program activities.

83-561 O - 77 - 51

7. General Administration

FY 1977, $3,765,000; FY 1978, $3,587,000; decrease of $178,000. The decrease consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) $-400,000	-10	$2,868,426	152	General Administration - Program reduction.
(B) +216,000	--	712,574	--	Employee Compensation Payments
(C) +6,000	--	6,000	--	Annualize increased pay costs E.O. 11941.
-178,000	-10	3,587,000	152	

Program Synopsis

General administrative expenses provide for management, executive direction and coordination, and administrative support to the Bureau as a whole. This includes such essential functions as budget, finance, personnel, contract negotiation and administration, property management, organization and management analysis. General administrative 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 the expanded substantive program.

Major Program Changes

A. General Administration — $-400,000; total, $2,868,426
-10 positions; total, 152

Proposal - General program reduction.

B. Employee compensation payments — $+216,000; total, $712,574
No positions

Proposal - The increase is due to additional costs of compensation and medical benefits.

Justification - The estimate represents the amount to be reimbursed to the Bureau of Employee's Compensation, Department of Labor, for payments made in FY 1977, under the provisions of Section 209 of Public Law 86-767, for Geological Survey employees injured since December 1, 1960.

Cost Factors - Employee benefits, $216,000.

Program Description

Personnel

Resource utilization and managerial acceptance of Equal Employment Opportunity (EEO) program requirements will receive careful observation in FY 1978. High priority areas will include development of improved training materials and course offerings in EEO for supervisors and EEO staff, participation in a Department-wide clearing house for ideas, methods and information on minority recruitment, and use of increased program guidance and assistance from the Department. Supervisors and managers will receive guidance and direction regarding their EEO responsibilities. The Minority Participation in Earth Sciences Program, a USGS program devoted to advancing the training of minority group members in the earth sciences, will continue to receive attention in the areas of assisting earth science departments at minority colleges, establishing cooperative education agreements, and sponsoring summer employment programs. In addition, further progress will be expected from our Upward Mobility Program in identifying future manpower needs and meeting some of these needs through Upward Mobility placements.

Personnel program planning and evaluation will receive increased emphasis in FY 1978. Both headquarters and field personnel offices will focus on those personnel management areas in need of improvement which will be identified and monitored by a management-by-objectives approach. Progress in carrying out a viable personnel management program will be evaluated through an integrated personnel management evaluation system. The evaluation efforts will involve greater participation from field personnel offices in order that headquarters may devote more staff time to fully develop bureau-wide plans and improve evaluation methodology.

Increased attention will be given to the career development of Bureau employees. Further, efforts will be made to identify training needs, validate training effectiveness, develop annual training plans and objectives, and utilize standards of adequacy in evaluating training programs. Emphasis will also be given to the improvement of supervisor/employee dialogue in the identification of training needs based on performance factors, employee career aspirations, and organizational needs. Specific training programs will be provided in supervisory training, management development, position management, and human relations.

The President's memorandum of May 27, 1976, in which he called upon each of the Departments and agencies to re-examine their position management and position classification system, will result in more intensive reviews and follow-up through position audits, periodic surveys, and personnel management evaluations. Annual action plans will be developed to implement position management and grade control policies. In addition, a mandatory review of 25% of all positions in the Bureau will be carried out.

Administrative Management Improvement

This is a continuing program aimed at more effective and efficient administrative management throughout the Survey. Specific projects 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 development and implementation of operational improvements through the use of ADP-support administrative systems in the areas of procurement, property and space management; continuing the comprehensive Bureau-wide program of review, analysis, and implementation of improvements in paperwork management - records, directives, and forms; and developing improved procedures for implementing the provisions of the Privacy Act and the Freedom of Information Act.

Safety Program

The guidelines for an effective safety program are published in 29 CFR 1960, Safety and Health for Federal Employees. Continued emphasis will be placed on compliance with OSHA standards, training for all levels of management, laboratory safety, and inspection of facilities. Emphasis will also be placed on greater individual participation in safety efforts through committees and safety skills training programs.

General Services

Data input terminals will be installed for providing maintenance and updating of real and personal property records. This method of computer input has reduced the number of documents required for updating records. Continued emphasis will be placed on improving motor vehicle utilization. Usage analysis reports have been established for all Bureau vehicles. A program to reduce space costs through better utlization will receive greater emphasis. Plans are being reviewed for the improvement of supply operations, inventory management, and property disposal procedures. A program will be implemented to reduce the costs of telecommunications, reproduction services, and mailing practices. Greater emphasis will be placed on increasing productivity in all areas of administrative services through improved procedures, systems, and management control.

Financial Management

There will be continued monitoring, maintenance and refinement of the Survey's accrual accounting and financial management system. Financial reports are now being transmitted to the field via remote computer terminal. This effort will be evaluated and expanded in response to program needs. The system for remote processing of time and attendance data for payroll operations will be implemented at major field locations.

A primary goal will be to streamline procedures for processing bills for payment. Survey contracting programs have more than doubled in the past three years. Management techniques such as statistical sampling and automation will be employed to cope with increased workload.

Contract Management

The Survey's contracting program increases yearly as new programs are initiated and subjected to OMB Circular A-76 analysis. The FY 1976 contracting program is expected to increase by one third in FY 1977 and increase by nearly one third again in FY 1978. Internal efforts to develop a Procurement Management Information System are underway and should be operational in FY 1977. Program procurement planning guidelines are being drafted to aid program managers in developing program estimates and time schedules. Training of administrative and technical personnel in contracting requirements and techniques is being emphasized.

Regional Administration and Management

Administrative support services are provided to field offices through three regional management offices located at Survey's regional centers. The regional offices also provide liaison with Departmental and other agency representatives at the other Federal and Interior regional headquarters cities. Special emphasis will be directed toward personnel management, space and facilities management, and procurement to support expanding Survey programs.

Employee Compensation Payments — $+216,000; total $712,574
No positions

To reimburse the Bureau of Employee Compensation, Department of Labor, for payments made in FY 1976 for Geological Survey employees injured since December 1, 1960 (P.L. 86-767, Section 209).

Funding of General Administrative Expenses (GAE)
(Dollars in thousands)

Source of Funds for GAE:	FY 1976	FY 1977	FY 1978
Surveys, Investigations, and Research:			
1. Alaska pipeline related investigations	$ 7	$ 7	$ 7
2. Topographic surveys and mapping	660	806	1,140
3. Geologic and mineral resource surveys and mapping	2,204	2,305	3,040
4. Water resources investigations	984	1,124	1,291
5. Conservation of lands and minerals	1,297	2,114	2,250
6. Land information and analysis	614	600	609
7. General administration	3,398	3,765	3,587
8. Facilities	--	--	--
9. National petroleum reserve	--	65	--
Total, SIR	9,164	10,786	11,924
Other Federal/non-Federal sources	2,287	3,212	3,236
Total, GAE	11,451	13,998	15,160
Relationship to total bureau program:			
SIR:			
General administrative expense	9,164	10,786	11,924
Bureau total (Budget authority)	272,836	315,455	353,622
Ratio, GAE to total BA	3.4%	3.4%	3.4%
State and local governments	.0%	.0%	.0%
Other Funds	4.5%	4.5%	4.5%
All funds:			
General administrative expense	11,451	13,998	15,160
Total bureau program	353,970	423,443	465,810
Ratio, GAE to total	3.2%	3.3%	3.3%

8. Facilities

FY 1977, $9,480,000; FY 1978, $11,720,000; increase $2,240,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)	$+1,784,000	--	$11,264,000	37	Facilities - Standard Level user charge (SLUC) and Facilities Management and special building services.
(B)	+456,000	--	456,000	--	GSA space costs
	+2,240,000	--	11,720,000	37	

Program Synopsis

The funds included in this activity will finance the operation and maintenance costs, facilities management needs, payments for space rental costs (SLUC), and related special support services necessary for the operation of the National Center complex at Reston, Virginia.

Major Program Changes

(A) Facilities

FY 1977, $9,480,000; FY 1978, $11,264,000; increase $1,784,000.

(1) Standard Level User Charge (SLUC) $+820,000; total $7,710,000

Approximately $7,710,000 will be required to cover rental costs for the full year for the National Center complex for the normal 40 hour, 5 day work week.

The Survey will continue to reimburse GSA for building costs for the National Center. GSA has contracted for standard level operation and maintenance services such as cleaning, O&M of electrical, heating, air conditioning 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.

(2) Facilities Management and Special Building Services $+964,000; total, $3,554,000. No position change; total, 37

(a) Special service charges, $+847,000; total $2,647,000

The following services are provided by General Services Administration on a reimbursable basis and are not included in the Standard Level User Charge:

- Overtime services relating to protection, elevator service, heating, air conditioning and ventilating, and metered utility costs for periods beyond the normal 40 hour, 5 day work week.

- Space acquisition, alterations, installation and repair of special ventilating, temperature and humidity control equipment, and related items.

- o Additional maintenance and repair of exterior grounds (105 acres).

(b) Facilities management, $+117,000; total, $907,000

The facility operation will provide essential support services to the estimated 2,500 Survey employees that will occupy space in the Headquarters complex in FY 1978. This operation performs services 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.

(B) GSA Space Costs - increase, $456,000

The amount requested is to provide for the automatic rate increase.

ENERGY AND MINERALS

Geological Survey

Federal Funds

General and special funds:

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 permits and Federal Power Commission licenses: 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; $353,622,000, of which $30,675,000 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. (Department of the Interior and Related Agencies Appropriation Act, 1977.)

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SURVEYS, INVESTIGATIONS, AND RESEARCH

Program and Financing (in thousands of dollars)

	FY 1976 Actual	T.Q. Actual	FY 1977 Estimated	FY 1978 Estimated
Program by activities:				
Direct program				
1. Alaska pipeline related investigations	306	70	333	333
2. Topographic surveys and mapping	45,970	11,206	50,382	59,802
3. Geologic and mineral resource surveys and mapping	102,203	24,893	100,134	119,390
4. Water resources investigations	57,295	15,849	63,637	68,579
5. Conservation of lands and minerals	38,845	13,056	68,167	72,225
6. Land information and analysis	15,927	4,119	17,718	17,986
7. General administration	4,477	1,267	3,765	3,587
8. Facilities	11,130	2,504	9,500	11,720
9. National petroleum reserve	--	--	1,849	--
Total, direct program	276,153	72,964	315,485	353,622
Reimbursable program:				
2. Topographic surveys and mapping	6,390	1,736	7,300	7,550
3. Geologic and mineral resource surveys and mapping	13,078	3,723	16,315	17,210
4. Water resources investigations	40,102	11,265	47,000	47,354
5. Conservation of lands and minerals	162	--	206	206
6. Land information and analysis	1,896	639	3,700	4,250
Miscellaneous services to other accounts	1,576	253	1,310	1,513
Total reimbursable program	63,204	17,616	75,831	78,083
Total program costs, funded	339,357	90,580	391,316	431,705
Change in selected resources (undelivered orders)	-11,719	4,606	--	--
10.00 Total obligations	327,638	95,186	391,316	431,705
Financing:				
Offsetting collections:				
11.00 Federal funds	-20,275	-6,669	-28,385	-26,088
14.00 Non-Federal sources	-42,929	-10,947	-47,446	-51,995
17.00 Recovery of prior year obligations	-9	-1	-9	--
21.00 Unobligated balance available, start of period	-21	-8,432	-21	--
24.00 Unobligated balance available, end of period	8,432	21	--	--
25.00 Unobligated balance lapsing	--	166	--	--
Budget authority	272,836	69,324	315,455	353,622

Program and Financing (in thousands of dollars)

		FY 1976 Actual	T.Q. Actual	FY 1977 Estimated	FY 1978 Estimated
Budget Authority:					
40.00	Appropriation	272,836	69,324	305,896	353,622
44.10	Proposed supplemental wage-board pay raise	--	--	347	--
44.20	Proposed supplemental civilian pay raise	--	--	9,212	--
Relation of obligations to outlays:					
71.00	Obligations incurred, net	264,425	77,569	315,476	353,622
72.00	Obligated balance, start of period	42,516	21,733	40,349	42,448
74.00	Obligated balance, end of period	-21,733	-40,349	-42,448	-43,955
77.00	Adjustments in expired accounts	831	-73	--	--
90.00	Outlays, excluding pay raise supplemental	286,039	58,880	304,200	351,733
91.00	Outlays from wageboard pay raise supplemental	--	--	333	14
91.20	Outlays from civilian pay raise supplemental	--	--	8,844	368
	CONSOLIDATED WORKING FUND				
Program by activities:					
2.	Topographic surveys and mapping	351	5	250	270
3.	Geologic and mineral resource surveys and mapping	10,154	3,642	12,872	13,925
4.	Water resources investigations	13,500	3,426	14,960	15,590
5.	Conservation of lands and minerals	25	6	--	--
6.	Land information and analysis	474	485	3,700	3,950
10.00	Total program costs, obligations	24,504	7,564	31,782	33,735
Financing:					
	Offsetting collections from:				
11.00	Federal funds	-24,504	-7,564	-31,782	-33,735
	Budget authority	--	--	--	--
Relation of obligations to outlays:					
71.00	Obligations incurred, net	--	--	--	--
72.00	Obligated balance, start of period	5,425	12,289	7,150	2,150
74.00	Obligated balance, end of period	-12,289	-7,150	-2,150	-2,150
90.00	Outlays	-6,864	5,139	5,000	--

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SURVEYS, INVESTIGATIONS, AND RESEARCH

Object Classification (in thousands of dollars)

		FY 1976 Actual	T.Q. Actual	FY 1977 Estimate	FY 1978 Estimate
	Direct obligations:				
	Personnel compensation:				
11.1	Permanent positions	129,002	33,399	147,130	148,476
11.3	Positions other than permanent	13,586	3,912	16,748	17,469
11.5	Other personnel compensation	2,516	708	3,199	3,454
	Total personnel compensation	145,104	38,019	167,077	169,399
12.1	Personnel benefits: Civilian	15,148	4,245	17,308	17,706
13.0	Benefits for former personnel	13	13	27	27
21.0	Travel & transportation of persons	8,350	2,109	9,637	11,070
22.0	Transportation of things	3,529	825	3,425	3,989
23.1	Standard level user charges	14,750	3,688	19,532	21,081
23.2	Other rent, comm., & utilities	12,722	3,178	12,065	16,017
24.0	Printing and reproduction	3,125	836	3,346	3,673
25.0	Other services	34,797	18,933	52,169	72,433
26.0	Supplies and materials	13,305	2,896	14,007	15,831
31.0	Equipment	10,931	2,148	12,662	17,515
33.0	Investments and loans	--	10	10	--
41.0	Grants, subsidies, & contributions	2,668	670	4,205	4,881
42.0	Insurance claims & indemnities	17	5	21	26
	Subtotal	264,459	77,575	315,491	353,648
95.0	Quarters and subsistence charges	-25	-5	-26	-26
	Total direct obligations	264,434	77,570	315,465	353,622
	Reimbursable obligations:				
	Personnel compensation:				
11.1	Permanent positions	28,634	7,341	29,140	29,573
11.3	Positions other than permanent	3,316	1,053	3,797	3,848
11.5	Other personnel compensation	613	184	716	773
	Total personnel compensation	32,563	8,578	33,653	34,194
12.1	Personnel benefits: Civilian	3,519	910	3,685	3,743
13.0	Benefits for former personnel	4	4	4	4
21.0	Travel & transportation of persons	2,154	566	2,459	2,606
22.0	Transportation of things	1,224	260	1,334	1,396
23.1	Standard level user charges	3,329	832	3,491	3,741
23.2	Other rent, comm., & utilities	1,258	344	2,956	3,160
24.0	Printing and reproduction	438	107	673	700
25.0	Other services	13,585	4,529	20,866	21,211
26.0	Supplies and materials	3,322	910	4,316	4,725
31.0	Equipment	1,761	536	2,334	2,545
41.0	Grants, subsidies, & contributions	41	38	50	50
42.0	Insurance claims & indemnities	6	2	10	8
	Total reimbursable obligations	63,204	17,616	75,831	78,083

Object Classification (in thousands of dollars)

		FY 1976 Actual	T.Q. Actual	FY 1977 Estimate	FY 1978 Estimate
99.0	Total obligations	327,638	95,186	391,296	431,705
	ALLOCATION TO GENERAL SERVICES ADMINISTRATION				
25.0	Other services	--	--	20	--
99.0	Total obligations	327,638	95,186	391,316	431,705
	CONSOLIDATED WORKING FUNDS				
	Personnel compensation:				
11.1	Permanent positions	9,562	2,560	10,866	11,136
11.3	Positions other than permanent	1,574	491	1,984	1,986
11.5	Other personnel compensation	221	69	285	320
	Total personnel compensation	11,357	3,120	13,135	13,442
12.1	Personnel benefits: Civilian	1,162	367	1,403	1,421
13.0	Benefits for former personnel	3	1	3	5
21.0	Travel & transportation of persons	916	197	1,218	1,369
22.0	Transportation of things	552	110	602	683
23.1	Standard level user charges	1,115	279	1,272	1,363
23.2	Other rent, comm., & utilities	606	151	1,245	1,466
24.0	Printing and reproduction	142	48	313	330
25.0	Other services	5,521	2,598	9,051	9,607
26.0	Supplies and materials	1,644	386	1,730	1,971
31.0	Equipment	1,365	280	1,576	1,826
41.0	Grants, subsidies, & contributions	118	27	230	247
42.0	Insurance claims and indemnities	3	--	4	5
99.0	Total obligations	24,504	7,564	31,782	33,735

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Personnel Summary

	FY 1976 Actual	FY 1977 Estimate	FY 1978 Estimate
Direct:			
Total number of permanent positions	7,036	7,570	7,618
Full-time equivalent of other positions	1,451	1,614	1,683
Average paid employment	8,900	9,381	9,399
Average GS grade	9.80	9.87	9.87
Average GS salary	$18,620	$20,054	$20,322
Average salary of ungraded positions	$16,140	$17,775	$17,871
Reimbursable:			
Total number of permanent positions	1,588	1,360	1,360
Full-time equivalent of other positions	355	386	392
Average paid employment	1,993	1,885	1,896
Average GS grade	9.80	9.87	9.87
Average GS salary	$18,620	$20,054	$20,322
Average salary of ungraded positions	$16,140	$17,775	$17,871
Consolidated Working Fund:			
Total number of permanent positions	521	482	482
Full-time equivalent of other positions	168	202	203
Average paid employment	695	736	744
Average GS grade	9.80	9.87	9.87
Average GS salary	$18,620	$20,054	$20,322
Average salary of ungraded positions	$16,140	$17,775	$17,871

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Consolidated Schedule of Permanent Positions
Paid from Funds Available to the Geological Survey

	FY 1976 Actual	FY 1977 Estimated	FY 1978 Estimated
Executive level V	1	1	1
Subtotal	1	1	1
GS-18	4	4	4
GS-17	12	12	12
GS-16	53	53	53
GS-15	420	437	448
GS-14	570	603	618
GS-13	995	1,063	1,079
GS-12	1,311	1,389	1,396
GS-11	1,322	1,341	1,348
GS-10	156	164	162
GS-9	1,135	1,254	1,245
GS-8	235	224	232
GS-7	672	743	761
GS-6	490	489	491
GS-5	778	753	775
GS-4	402	382	381
GS-3	174	167	171
GS-2	49	40	39
GS-1	5	4	4
Subtotal GS	8,783	9,122	9,219
Grades established by the Administrator, Agency for International Development (75 Stat. 450):			
FC-13, $39,341 to $39,600	1	1	1
FC-12, $33,740 to $39,600	5	6	6
FC-11, $28,358 to $37,828	8	8	8
FC-10, $24,308 to $31,598	5	8	8
FC-9, $20,392 to $26,738	7	9	9
FC-8, $17,170 to $22,213	4	4	4
Subtotal FC	30	36	36
Ungraded	342	264	242
Total permanent positions	9,156	9,423	9,498
Unfilled positions, June 30	-7	-7	-7
Total permanent employment, end of year	9,149	9,416	9,491

ADMINISTRATIVE PROVISIONS

The amount appropriated for the Geological Survey shall be available for purchase of not to exceed thirty-three 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.

Authorization for Purchase of 33 Passenger Motor Vehicles, 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 33 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 vehicles will be used in areas not serviced by vehicle pools maintained by the General Services Administration.

	Sedans	Station Wagons	Total
Replacements based on:			
Mileage			
60,000 - 80,000 -----	8	15	23
80,000 or over ------	5	4	9
Age ----------	1	--	1
Total ----------	14	19	33
Total passenger vehicles owned by Geological Survey ----------	51	94	145

GS-150

Miscellaneous Services to Other Accounts

Miscellaneous services performed for other Federal agencies and the public, on a reimbursable basis, by central services units of the Geological Survey are summarized below:

	(Dollars in thousands)			
	Actual FY 1976	Actual T.Q.	Estimate FY 1977	Estimate FY 1978
Electronic data processing and related services	$ 732	$ 14	$ 636	$ 799
Publication services	806	236	635	674
Property maintenance services and sale of material from stock to other Federal agencies	38	3	39	40
Total central services reimbursable program	1,576	253	1,310	1,513

Central Services and Consolidated Accounts

Services to Geological Survey programs, similar to those rendered to other agencies, as well as motor vehicle fleet operations and other common-use services are financed for reasons of economy through central service and consolidated accounts. Charges initially made to these accounts are ultimately charged to the activity benefited.

The actual costs for these services for 1976 and the estimates for Transition Quarter, 1977 and 1978 and their distribution by activity, are summarized below:

	(Dollars in thousands)			
Central Services	Actual FY 1976	Actual T.Q.	Estimate FY 1977	Estimate FY 1978
Electronic data processing and related services	$ 6,700	$ 1,908	$ 9,500	$ 10,475
Publication services	14,662	3,469	14,592	15,616
Property maintenance and instrument development	805	200	829	834
Total central services	22,167	5,577	24,921	26,925

(Dollars in thousands)

Consolidated Accounts	Actual FY 1976	Actual T.Q.	Estimate FY 1977	Estimate FY 1978
Motor vehicle fleet operations	$ 1,251	$ 275	$ 1,305	$ 1,345
Rental and maintenance of certain facilities at headquarters and field centers	342	85	351	353
Warehouse stock of common-use supplies and materials	1,908	486	2,008	2,020
Survey's proportionate share of Departmental charges, Safety Committee and contingencies arising from operation of field centers	1,104	413	1,025	1,135
Total consolidated accounts	4,605	1,259	4,689	4,853
Grand Total	28,348	7,089	30,920	33,291

(Dollars in thousands)

Distribution by Activity:	Actual FY 1976	Actual T.Q.	Estimate FY 1977	Estimate FY 1978
Topographic surveys and mapping	$ 8,167	$ 2,026	$ 8,315	$ 9,042
Geologic and mineral resource surveys and mapping	8,616	1,988	10,649	11,559
Water resources investigations	6,435	1,708	6,694	7,122
Conservation of lands and minerals .	2,193	647	2,402	2,694
Land information and analysis	697	254	696	731
General administration	616	201	802	575
Facilities	48	12	52	55
Miscellaneous services to other accounts	1,576	253	1,310	1,513
Total	28,348	7,089	30,920	33,291

FUNDS APPROPRIATED TO THE PRESIDENT
PETROLEUM RESERVES
FY 1978 Budget Justification

TABLE OF CONTENTS

	Page
Highlight statement	GS-154
Budget justification	GS-155
Summary of increases and decreases	GS-159
Program and financing	GS-160
Object classification	GS-161
Personnel summary	GS-162
Analysis by activities	GS-163

FUNDS APPROPRIATED TO THE PRESIDENT
PETROLEUM RESERVES
Highlights of FY 1978 Budget Justification

Under a separate appropriation entitled, Funds Appropriated to the President, Petroleum Reserves, the Geological Survey is requesting $209,541,000 in fiscal year 1978, an increase of $109,049,000 over the Navy's fiscal year 1977 program for activities concerning the National Petroleum Reserve in Alaska (formerly the Naval Petroleum Reserve Number 4).

The FY 1978 program is a continuation of the original Navy 5-year plan and includes: $195,994,000 for evaluation and assessment of the petroleum potential of the Reserve; $11,547,000 to ensure, insofar as possible, an adequate supply of natural gas to meet the increasing demand by the native village of Barrow and other native communities and Federal installations at or near Point Barrow, Alaska; and $2,000,000 for environmental restoration.

National Petroleum Reserve in Alaska

FY 1977, $100,492,000 (Navy Appropriation); FY 1978, $209,541,000; increase, $109,049,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
$+109,049,000	+27	$209,541,000	27*	National Petroleum Reserve in Alaska

The FY 1977 Navy appropriation is being shown for comparability purposes only.

Program Synopsis

Under the Naval Petroleum Reserves Production Act of 1976, responsibility for the National Petroleum Reserve in Alaska (NPRA), and for the continuation of the exploratory drilling program begun by the Navy, transfers to the Department of the Interior on June 1, 1977. The FY 1978 program for the NPRA provides for (a) an engineering and geologic evaluation and assessment of the petroleum potential of the National Petroleum Reserve in Alaska; (b) the development and continued operation of the South Barrow Gas Field, or other such fields as may be necessary, to supply gas at reasonable and equitable rates to the native village of Barrow, other communities and installations at or near Point Barrow, Alaska, and to installations of the Department of Defense and other agencies of the United States located at or near Point Barrow, Alaska; and (c) the restoration to an environmentally acceptable state of certain areas of the Reserve which were disturbed by previous construction and exploration activities.

The fiscal year 1978 program represents an increase of $109,049,000 over the Navy's FY 1977 program of $100,492,000 and is a continuation of the original Navy 5-year plan. It provides for increased efforts in exploratory drilling; exploration and development of the Barrow area gas supply; geologic analysis and interpretation; and for maintaining geophysical exploration and environmental clean-up at approximately the same level as fiscal year 1977.

National Petroleum Reserve in Alaska

For purposes of this FY 1978 budget request, the increases identified under the major program changes section of the budget justification are shown as equivalent to the total appropriation request.

FY 1977, $ --; FY 1978, $209,541,000; increase of $209,541,000

Major Program Changes

(1) Evaluation and Assessment of NPRA — $+195,994,000; total $195,994,000
+27 positions; total, 27*

Proposal - The requested funds will support a major increase in effort in the evaluation and assessment of the petroleum potential of the National Petroleum Reserve in Alaska (NPRA). The primary program expansion will occur in the areas of the exploratory drilling program and the related surface and subsurface geological and geophysical analysis and interpretation. The fiscal year 1978 program includes the drilling of three medium depth exploratory or confirmation wells ranging in depth from 10,000 to 12,000 feet and four deep exploratory wells ranging from 15,000 to 20,000 feet. The four deep wells to be drilled in

*Excludes five (5) positions to be transferred to the Geological Survey from the Department of the Navy on June 1, 1977.

FY 1978 are the first deep wells in the Reserve and require a major change in operational procedures. Since the winter season is not sufficiently long to complete a deep well, year around drilling will be required and it will be necessary to construct all-season airstrips and roads. The expansion of the exploratory drilling program into the western part of the Reserve will require the establishment of an additional support and supply base. Additionally, the increased number and depth of the exploratory wells significantly increases the well coring and logging programs. The requested funds also provide for the collection and processing of 2,670 line miles of reflection seismic and gravity data and for the purchasing and transporting of materials and supplies to support the FY 1979 drilling and seismic programs.

Justification - One of the major National initiatives is to regain energy independence for the United States. The current shortfall in United States energy supplies can be substantially offset by locating and producing more of the Nation's undiscovered reserves. The Naval Petroleum Reserves Production Act of 1976, P.L. 94-258, transferred jurisdiction of NPRA (previously Naval Petroleum Reserve No. 4) from the Department of the Navy to the Department of the Interior on June 1, 1977, and required the Secretary of the Interior to assume responsibility for continuation of the Navy's exploration activities within the Reserve. The Secretary of the Interior delegated these responsibilities to the Geological Survey. The potential oil reserves of NPRA have been variously estimated at three to 33 billion barrels. While the budget provides the amount necessary, assuming an adequate flow of receipts into the special account, for continuation of the Navy's plan for assessment of the potential oil and gas resources, the President has recommended legislation to the Congress which would open the reserve immediately for competitive private exploration and development.

(2)	Barrow Area, Gas Exploration and Development	$+11,547,000; total, $11,547,000 No positions

Proposal - The requested funds will support a major effort to ensure, insofar as is possible, an adequate supply of natural gas to meet the increasing demand by the native village of Barrow and other native communities and Federal installations at or near Point Barrow, Alaska. The fiscal year 1978 program within the South Barrow gas field provides for the preparation of a comprehensive reservoir analysis, the drilling and completion of three additional development wells, the improvement of the operational facilities and their continued operation and maintenance, and the purchasing and transporting of materials to support the fiscal year 1979 Barrow drilling program.

Justification - Public Law 94-258 authorized the Secretary of the Navy to develop and continue operation of the South Barrow gas field, or such other fields as may be necessary, to supply gas at reasonable and equitable rates to the native village of Barrow, and other communities and installations at or near Point Barrow, Alaska, and to nearby installations of the Department of Defense and other agencies of the United States. The Secretary of the Interior is directed to take such actions as may be necessary to continue service to such villages, communities, installations, and agencies after the transfer of the Reserve to the Department of the Interior. This responsibility has been delegated to the Geological Survey by the Secretary. Present forecasts of gas usage in the Point Barrow area indicate an annual increase in consumption of approximately 12%. All of the currently producing wells show progressive pressure declines. At the current production rates, the maximum anticipated life of the field is approximately nine years. The distribution and reservoir characteristics of the gas sands comprising the field are poorly known; hence, the total reserve, appropriate well spacing, and maximum effective production rates are not well understood. Production from the three additional wells will permit the supply to keep pace with the demand and the reservoir study will facilitate the development and implementation of an engineering field management plan to ensure maximum possible ultimate resource recovery.

(3) Environmental Restoration $+2,000,000; total $2,000,000
No positions

Proposal The environmental restoration program consists of the normal, ongoing cleanup of current exploration activities and cleanup of areas disturbed during previous petroleum exploration and construction activities.

Justification - Drilling operations generate empty fuel drums and other litter which must be collected and transported to suitable disposal areas. Additionally, the Navy's petroleum exploration program which took place from 1944 through 1953 and more recent Air Force construction and operational activities within NPRA left hundreds of thousands of fuel drums, abandoned equipment, deteriorating structures, and other refuse throughout the Reserve. The Navy began a program to clean up these disturbed areas in fiscal year 1976.

Cost Factors - Personnel services and benefits costs for the equivalent of twenty-seven (27) manyears at an annual rate of $28,037, $757,000; other related costs, $260,000; contractual services for: construction, $60,924,000; drilling, $59,644,000; transportation, $47,259,000; seismic exploration, $25,224,000; and other services, $15,473,000.

Program Description

(1) Evaluation and Assessment of NPRA

The goal of the NPRA evaluation and assessment program is to provide as firm a basis as possible for adequate resource estimates necessary for long range management decisions. This will be accomplished by seeking, locating, and testing as many large accumulations of recoverable oil and gas as possible during the duration of the program. The exploration for oil and gas consists of an interdependent sequence of geological - geophysical data accumulation, analysis and interpretation, and test-well drilling. The test wells are to be located primarily from a structural viewpoint but also to meet secondary stratigraphic objectives. The geological -- geophysical activities are planned to produce recommendations for drilling locations that provide the best chance of encountering reservoirs of significant producible quantities of oil and gas. The test-well drilling program confirms geological -- geophysical interpretations pertaining to petroleum accumulations and provides critical information concerning the future direction of the exploration and evaluation effort.

(2) Barrow Area Gas Exploration and Development

The goal of the Barrow area gas exploration and development program is to ensure, insofar as is possible, an adequate supply of natural gas to the native villages and Federal installations at or near Point Barrow, Alaska. The principal objectives of the program are to operate the currently producing gas wells in the South Barrow gas field in an efficient manner, increase the production capability of the South Barrow gas field, and, in future years, increase the total known reserve by drilling and completing additional wells in adjacent structures.

To achieve these objectives, the Geological Survey plans to prepare a comprehensive reservoir analysis of the South Barrow gas field, including the best possible estimates of total resource availability, and to devise and implement an engineering field management plan to ensure maximum possible resource recovery; improve the access to the South Barrow gas field to ensure that operational personnel can reach the field during adverse weather conditions; and drill additional development wells.

(3) Environmental Restoration

The goal of the environmental restoration program is to minimize the adverse impact of the petroleum exploration program on the environment. The objectives of this program are to assure that upon completion of current drilling activities the site is left with a minimum of disturbance and that certain areas previously disturbed by construction or petroleum exploration activities are restored to an environmentally acceptable state. This program is primarily concerned with removing unsightly litter and debris from selected sites. Travel on the tundra with heavy vehicles is only feasible during the cold season when the tundra is frozen. However, during this period, the debris and litter are hidden under snow and frozen to the tundra. The collection and stacking of the debris is scheduled during the summer and then transported out by surface equipment during the following cold season.

FUNDS APPROPRIATED TO THE PRESIDENT
PETROLEUM RESERVES

Appropriation 1976,	$ -- a/
Appropriation, 1977	$ -- a/

Summary of Increases and Decreases, 1978

	Base for 1978 a/	Increase 1978	
National Petroleum Reserve in Alaska			
Evaluation and Assessment of NPRA	$ --	$+195,994,000	
Barrow area gas exploration and development	--	+11,547,000	
Environmental restoration -	--	+2,000,000	
Net increase, 1978			$ +209,541,000
Budget estimate, 1978			209,541,000

a/ Appropriations for FY 1976 and FY 1977 were made to the Department of the Navy.

FUNDS APPROPRIATED TO THE PRESIDENT
PETROLEUM RESERVES
Program and Financing (in thousands of dollars)

		FY 1976 Actual	T.Q. a/ Estimated	FY 1977 a/ Estimated	FY 1978 Estimated
Program by activity					
	Direct program				
10.00	National petroleum reserve in Alaska (costs - obligations)	--	--	--	209,541
Budget Authority					
40.00	Appropriation	--	--	--	209,541
42.00	Transferred from other accounts	--	--	--	--
43.00	Appropriation (adjusted)	--	--	--	209,541
Relation of obligations to outlays:					
71.00	Obligations incurred, net	--	--	--	209,541
90.00	Outlays	--	--	--	209,541

a/ Appropriations for FY 1976, the Transition Quarter and FY 1977 were made to the Department of the Navy.

FUNDS APPROPRIATED TO THE PRESIDENT
PETROLEUM RESERVES
Object Classification (in thousands of dollars)

		FY 1976 a/ Actual	T.Q. a/ Actual	FY 1977 a/ Estimated	FY 1978 Estimated
Direct obligations:					
	Personnel compensation:				
11.1	Permanent positions	--	--	--	674
11.5	Other personnel compensation	--	--	--	2
	Total personnel compensation	--	--	--	676
12.1	Personnel benefits: Civilian	--	--	--	81
21.0	Travel and transportation of persons	--	--	--	140
22.0	Transportation of things	--	--	--	2
23.0	Rent, communications, and utilities	--	--	--	78
24.0	Printing and reproduction	--	--	--	25
25.0	Other services	--	--	--	208,524
26.0	Supplies and materials	--	--	--	5
31.0	Equipment	--	--	--	10
99.0	Total obligations	--	--	--	209,541

a/ Appropriations for FY 1976, the Transition Quarter and FY 1977 were made to the Department of the Navy.

FUNDS APPROPRIATED TO THE PRESIDENT
PETROLEUM RESERVES

Personnel Summary

	FY 1976 Actual	FY 1977 a/ Estimated	FY 1978 Estimated
Direct:			
Total number of permanent positions	--	--	27
Full-time equivalent of other positions	--	--	--
Average paid employment	--	--	27
Average GS grade	--	--	9.87
Average GS salary	--	--	$20,322
Average salary of ungraded positions	--	--	--

a/ Positions for FY 1976 and FY 1977 are shown against the Department of the Navy budget, FY 1978 excludes five positions to be transferred to the Geological Survey from the Department of the Navy on June 1, 1977.

FUNDS APPROPRIATED TO THE PRESIDENT
PETROLEUM RESERVES
Analysis by Activities

(Direct Appropriation)

Activity	FY 1976 a/ Amount Available	Fiscal Year 1977 a/ Total Appropriation	Pay Cost Supplemental	Amount Available
National Petroleum Reserve in Alaska	$ --	$ --	$ --	$ --

a/ Appropriations for FY 1976 and FY 1977 were made to the Department of the Navy.

FUNDS APPROPRIATED TO THE PRESIDENT
PETROLEUM RESERVES
Analysis by Activities

Activity	FY 1976 a/ Amount Available	FY 1977 a/ Amount Available	FY 1978 Estimate	Increase (+) Decrease (-) 1978 Compared with 1977	Page Reference
National Petroleum Reserve in Alaska	$ --	$ --	$209,541,000	+$209,541,000	

a/ Appropriations for FY 1976 and FY 1977 were made to the Department of the Navy.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

MINING ENFORCEMENT AND
SAFETY ADMINISTRATION

83-561 O - 77 - 53

DEPARTMENT OF THE INTERIOR
MINING ENFORCEMENT AND SAFETY ADMINISTRATION
SALARIES AND EXPENSES

HIGHLIGHT STATEMENT

The FY 1978 budget estimate for the Mining Enforcement and Safety Administration totals $105,766,000. After adjusting for current year supplementals totaling $1,100,000, the net increase is $7,585,000. The budget year request includes $4,957,000 to annualize and to maintain current operating levels and $4,020,000 for new or expanded program initiatives highlighted below. Additionally, the request reflects nonrecurring decreases totaling $1,392,000.

A summary of MESA's funding request by activity is as follows:

	FY 1977	FY 1978	Increase
	(in thousands of dollars)		
Coal Mine Health and Safety	53,648	57,170	3,522
Metal and Nonmetal Mine Health and Safety	17,427	19,271	1,844
Education and Training	10,713	10,894	181
Technical Support	14,205	15,895	1,690
Program Administration	2,188	2,536	384
Total	98,181	105,766	7,585

Maintain Current Level of Support

An increase of $4,957,000 is needed to maintain the current level of program support. Included in this amount are: $2,127,000 for part-year increases associated with the new positions approved in FY 1977; $1,594,000 for scheduled promotions and within-grade step increases of inspection and support personnel; $200,000 for operation and maintenance of the National Mine Health and Safety Academy; $340,000 for increased space costs; and $358,000 for annualization of the October 1976, pay increase. An additional $338,000 is requested to reimburse the Employee Compensation Fund for service-related disability payments which total $1,041,000 in FY 1978. Adjustments to MESA's current program effort also include nonrecurring reductions totaling $1,392,000. This includes $892,000 appropriated in FY 1977 for the purchase of additional motor vehicles and $500,000 of construction funds associated with Mechanical and Explosion Environment Testing.

Program Increases

Coal Mine Health and Safety:

- Program and Management Information Systems - $1,100,000. This proposed increase will allow for the computerization of the health program under Parts 70, 71, and 90 of the Code of Federal Regulations and also will allow for the conversion of the current manual information system to a more efficient and timely automated system.

- Dust Control Program - $900,000 and 45 positions. This proposed increase is a shift from the present requirement that operators collect large numbers of respirable dust samples. It places emphasis on assuring that mine operators use adequate dust control methods and take specific actions necessary to achieve compliance.

Metal and Nonmetal Mine Health and Safety:

- Accident Prevention Program - $270,000 and 12 positions. This proposed increase will allow for the expansion of the accident prevention program to 40 of the most hazardous operations.

- Comprehensive Health Program - $600,000 and 25 positions. This proposed increase will allow for the expansion of the health program which is designed to provide greater health inspection efforts at approximately 1,000 operations most likely to be in violation of established health standards.

Technical Support:

- Engineering Assistance and Evaluation - $1,150,000 and 21 positions. This proposed increase will allow for increased engineering assistance and evaluation services in the fields of ventilation, approval and certification, roof and ground falls, and illumination/electrical. It will also allow MESA to update and improve the equipment currently used for mine emergency and rescue operations.

Status of Authorizations

The Mining Enforcement and Safety Administration was established to carry out the Congressional mandates as expressed in P.L. 91-173, the Coal Mine Health and Safety Act, and P.L. 89-577, the Federal Metal and Nonmetallic Mine Safety Act. These Acts do not carry any specific time limitation and are, therefore, not subject to annual Congressional reauthorization.

DEPARTMENT OF THE INTERIOR
MINING ENFORCEMENT AND SAFETY ADMINISTRATION

Budget Authority
(in thousands of dollars)

Account and Functional Code	1976 Actual	1977 Estimate	1978 Estimate
Federal Funds			
General and Special Funds:			
Salaries and Expenses 553	84,465	97,081	105,766
Supplementals		1,100 a/	
Total Federal Funds, MESA	84,465	98,181	105,766

a/ Supplemental now proposed under existing legislation.

DEPARTMENT OF THE INTERIOR
MINING ENFORCEMENT AND SAFETY ADMINISTRATION

Salaries and Expenses

Appropriation, 1976	$79,473,000	
Second Supplemental Appropriation Act	3,090,000	
Pay Act Supplemental	1,902,000	
Total Appropriation, 1976		84,465,000
Appropriation, FY 1977	93,740,000	
Pay Cost Supplemental (October Pay Raise)	3,341,000	
Total available, 1977		97,081,000

SUMMARY OF INCREASES AND DECREASES, 1978

	Base for 1978	Increase 1978	
Coal Mine Health and Safety:			
Develop and implement a computerized management information system and a computer processing system for Parts 70, 71, and 90 of the health regulations	--	$1,100,000	
Develop a revised coal dust control program	$1,740,000	+900,000	
Maintain current level of operations	55,430,000	+1,878,000	
Annualization of October 1976 pay raise	--	+218,000	
Annualization of 1977 supplemental in 1978 budget	--	+1,100,000	
Nonrecurring item (purchase of automobiles) FY 1977	--	-574,000	+4,622,000
Metal and Nonmetal Mine Health and Safety:			
Expansion of Special Accident Prevention Program	870,000	+270,000	
Expansion of Comprehensive Health Program	1,450,000	+600,000	
Maintain current level of operations	16,951,000	+1,089,000	
Annualization of October 1976 pay raise	--	64,000	
Nonrecurring decrease (purchase of automobiles), FY 1977	--	-179,000	+1,844,000

	Base for 1978	Increase 1978	
Education and Training:			
Operation and maintenance of Mine Health and Safety Academy	4,672,000	+200,000	
Maintain current level of operations	6,222,000	+28,000	
Annualization of October 1976 pay raise	--	+28,000	
Nonrecurring item (Purchase of Automobiles), FY 1977	--	-75,000	+181,000
Technical Support:			
Increased approval and certification of mining equipment	2,125,000	+150,000	
Testing and approval of illumination and electrical systems	775,000	+100,000	
Increased roof and ground fall assistance	950,000	+300,000	
Increased mine ventilation engineering assistance	1,100,000	+400,000	
Update mine emergency operations equipment	920,000	+200,000	
Maintain current operating levels	10,025,000	+1,061,000	
Annualization of October 1976 pay raise	--	+43,000	
Nonrecurring item (construction of explosion and environmental testing facility)	--	-500,000	
Nonrecurring item (purchase of automobiles), FY 1977	--	-64,000	+1,690,000
Program Administration:			
Increase associated with reimbursement of Employee Compensation Fund	1,041,000	+338,000	
Maintain current operating levels	1,495,000	+5,000	
Annualization of October 1976 pay raise	--	+5,000	+348,000
Net Increase, 1978			+8,685,000
Budget Estimate, 1978			$105,766,000

SALARIES AND EXPENSES

Analysis by Activities

Activity	FY 1976 Amount Available	(Direct Appropriation) Fiscal Year 1977 Total Appropriation	Pay Cost Supplemental	Amount Available
1. Coal Mine Health and Safety Inspections	$45,528,235	$50,529,000	$2,019,000	$52,548,000
2. Metal and Nonmetal Mine Health Safety Inspections	13,735,813	16,808,000	619,000	17,427,000
3. Education and Training	8,328,188	10,449,000 1/	264,000	10,713,000 1/
4. Technical Support	11,344,670	13,809,000	396,000	14,205,000
5. Program Administration	2,222,936	2,145,000	43,000	2,188,000
Unobligated Balance, Start of Year	-769,982	--	--	--
Unobligated Balance, End of Year	--	--	--	--
Unobligated Balance Carried Forward, TQ	4,075,140	--	--	--
Total	84,465,000	93,740,000	3,341,000	97,081,000

1/ Excludes $1,273,000 of no-year construction funds previously transferred to the General Services Administration for completion of the National Mine Health and Safety Academy.

SALARIES AND EXPENSES

Analysis by Activities

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
1. Coal Mine Health and Safety Inspections	$45,528,235	$52,548,000	$57,170,000	$+4,622,000	10
2. Metal and Nonmetal Mine Health and Safety Inspections	13,735,813	17,427,000	19,271,000	+1,844,000	28
3. Education and Training	8,328,188	10,713,000 1/	10,894,000	+181,000	38
4. Technical Support	11,344,670	14,205,000	15,895,000	+1,690,000	47
5. Program Administration	2,222,936	2,188,000	2,536,000	+348,000	60
Unobligated Balance, Start of Year	-769,982	--	--	--	
Unobligated Balance, End of Year	--	--	--	--	
Unobligated Balance Carried Forward, TQ	4,075,140	--	--	--	
Total	84,465,000	97,081,000	105,766,000	+8,685,000	

1/ Excludes $1,273.000 of no-year construction funds previously transferred to the General Services Administration for completion of the National Mine Health and Safety Academy.

MINING ENFORCEMENT AND SAFETY ADMINISTRATION
SALARIES AND EXPENSES

ANALYSIS OF SUBACTIVITIES

	1976 Amount Available	1977 Amount Available	Perm. Pos.	1978 Estimate	Perm. Pos.	Increase or decrease (-) 1978 compared with 1977 dollars	Pos.
1. Coal Mine Health and Safety							
a. Coal Mine Inspections	$41,061,000	$45,267,000	1,939	$49,373,000	1,984	$4,106,000	45
b. Assessments Program	1,974,000	3,061,000	139	3,440,000	139	379,000	--
c. State Grants Program	1,800,000	2,500,000	2	2,500,000	2	--	--
d. GSA Space	1,470,000	1,720,000	--	1,857,000	--	137,000	--
Total	46,305,000	52,548,000	2,080	57,170,000	2,125	4,622,000	45
2. Metal and Nonmetal Mine Health and Safety							
a. Metal and Nonmetal Mine Inspections	13,277,000	16,835,000	627	18,590,000	664	1,755,000	37
b. GSA Space	498,000	592,000	--	681,000	--	89,000	--
Total	13,775,000	17,427,000	627	19,271,000	664	1,844,000	37
3. Education and Training							
a. Training Center Operations	5,245,000	5,973,000	188	5,916,000	188	-57,000	--
b. National Mine Health & Safety Academy	4,899,000	4,462,000	103	4,672,000	103	210,000	--
c. GSA Space	262,000	278,000	--	306,000	--	28,000	--
Total	10,406,000	10,713,000	291	10,894,000	291	181,000	--
4. Technical Support							
a. Technical Support	11,456,000	13,868,000	398	15,477,000	419	1,609,000	21
b. GSA Space	290,000	337,000	--	418,000	--	81,000	--
Total	11,746,000	14,205,000	398	15,895,000	419	1,690,000	21
5. Program Administration							
a. Program Administration	2,157,000	2,107,000	74	2,450,000	74	343,000	--
b. GSA Space	76,000	81,000	--	86,000	--	5,000	--
Total	2,233,000	2,188,000	74	2,536,000	74	348,000	--
Total Salaries and Expenses	84,465,000	97,081,000	3,470	105,766,000	3,573	8,685,000	103

DEPARTMENT OF THE INTERIOR
MINING ENFORCEMENT AND SAFETY ADMINISTRATION
SALARIES AND EXPENSES

Analysis of Increases
(In thousands of dollars)

Activity/Program	Fiscal Year 1977 Presently Available Fte	Fiscal Year 1977 Presently Available Funds	Proposed Supplementals Pay Cost Funds	Proposed Supplementals Other Funds	Amount Available Fte	Amount Available Funds	Proposed Changes FY 1978 Non-recurring Decrease Funds	Maintain Current Level of Operations Funds	Supplemental Annualizations Pay Cost Funds	Supplemental Annualizations Other Funds	Space Cost Increases Funds	Program Increases Fte	Program Increases Funds	Net Increases Fte	Net Increases Funds	FY 1978 Appropriation Requests Fte	FY 1978 Appropriation Requests Funds
Coal Mine Health & Safety Inspections:																	
Inspections	1,939	44,961	1,928	(1,100)	1,939	46,889	-549	1,347	208	1,100	131	45	2,000	45	4,237	1,984	51,126
Assessments	139	3,068	91	---	139	3,159	-25	394	10	---	6	--	---	--	385	139	3,544
State Grants	2	2,500	---	---	2	2,500	---	---	---	---	---	--	---	--	---	2	2,500
Subtotal	2,080	50,529	2,019	(1,100)	2,080	52,548	-574	1,741	218	1,100	137	45	2,000	45	4,622	2,125	57,170
Metal & Nonmetal Mine Health & Safety Inspections	627	16,808	619	---	627	17,427	-179	1,000	64	---	89	37	870	37	1,844	664	19,271
Education and Training:																	
Training Operations	188	6,081	170	---	188	6,251	-75	---	18	---	28	--	---	--	-29	188	6,222
Academy	103	4,368	94	---	103	4,462	---	200	10	---	---	--	---	--	210	103	4,672
Subtotal	291	10,449	264	---	291	10,713	-75	200	28	---	28	--	---	--	181	291	10,894
Technical Support	398	13,809	396	---	398	14,205	-564	980	43	---	81	21	1,150	21	1,690	419	15,895
Program Administration	74	2,145	43	---	74	2,188	---	338	5	---	5	--	---	--	348	74	2,536
Grand Total	3,470	93,740	3,341	(1,100)	3,470	97,081	-1,392	4,259	358	1,100	340	103	4,020	103	8,685	3,573	105,766

1. Coal Mine Inspections: Fiscal year 1977, $52,548,000; Fiscal year 1978, $57,170,000; increase of $4,622,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$4,106,000	45	$49,373,000	1,984	Coal Mine Inspections - management information system/computerization of Parts 70, 71, and 90/ dust control program/ nonrecurring decrease/ annualization costs/pay cost annualization.
(B) +379,000	--	3,440,000	139	Assessments Program - annualization costs/ nonrecurring decrease/ pay cost annualization.
(C) --	--	2,500,000	2	State Grant Program
(D) +137,000	--	1,857,000	--	GSA Space Costs.
+4,622,000	+45	57,170,000	2,125	

Program Synopsis

This activity is divided into subactivities involving: (1) the inspection process, (2) the assessment and collection of civil penalties, and (3) state grants.

Coal Mine Inspections

The primary objective of coal mine inspections is to eliminate fatalities and reduce the frequency and severity of accidents as well as to minimize health hazards pertaining to the coal mining industry.

The Federal Coal Mine Health and Safety Act of 1969 provides both the responsibility and the authority to require that corrective action be taken for compliance with the statutory requirements of the Act and the implementing regulations, while at the same time providing assistance to the operator. The Act requires that a minimum of four health and safety inspections be made yearly of each underground mine in its entirety to ensure a safe and healthful environment. In addition, mines which fall within the provisions of Section 103(i) of the Act must have one spot inspection every five working days; plus special inspections and investigations including roof control, ventilation, electrical, transportation, and similar items to be inspected as required by the District Manager, based on conditions and practices at the individual mine.

Although the Act does not specify the number of inspections for surface mines, MESA, by policy, requires at least three health and safety inspections each year of the entire mine and as many additional inspections and investigations as may be required for compliance with

the Act and the implementing regulations. In addition, follow-up inspections are made to determine whether violations of the Act and regulations, as cited in Notices of Violations, have been abated within the time set by the inspector; whether conditions or practices that caused the issuance of Withdrawal Orders have been corrected to the extent that the Orders can be revised or terminated; and whether Withdrawal Orders are being complied with.

MESA's need for extensive automatic data processing capabilities is exemplified by the present status of its management information system (MIS) and its respirable dust control programs. In each instance, the clerical and storage demands created by the sheer volume of information generated through normal enforcement activity have reached a critical state. Consequently, there are two budget proposals which specifically are directed towards alleviating this problem.

The return on the investment is maximized by utilizing the same data processing and telecommunications network for both the MIS and dust control program. The major thrust of each proposal is to reduce records system requirements to a minimum, reduce manpower demands on clerical staff, permit immediate access to data affecting general management or specific enforcement problems, and ensure the quality of data which are gathered from field operations. A detailed explanation of each proposal and its justification are discussed under Major Program Changes.

Assessments

The Office of Assessments has the responsibility of administering Section 109(a) of the Federal Coal Mine Health and Safety Act of 1969. This section requires that a civil penalty be assessed for every violation of the mandatory health and safety standards and other mandatory provisions of the Act. It is estimated that approximately 140,000 violations will be reviewed and assessed in 1978. In addition to this initial assessment operation, the Office of Assessments is obligated by Departmental regulations to provide the coal mine operators and miners who are assessed penalties with an opportunity to confer with assessment officials for the purpose of reviewing the proposed assessments and relevant facts in order to ensure that the penalties will fairly and adequately conform to the statutory criteria for assessments. Proper application of the statutory criteria enhances the assessment program as an effective enforcement instrument in improving the working environment for miners.

State Grants

Section 503 of the Federal Coal Mine Health and Safety Act of 1969 authorizes the Secretary of the Interior to make grants to coal producing states, not to exceed 80 percent of the amount expended by the state in such year for carrying out such application to assist in:

- Developing and enforcing effective coal mine health and safety laws and regulations;
- Improving state workmen's compensation and occupational disease laws and programs; and
- Promoting Federal-state coordination and cooperation in improving health and safety conditions.

A. Coal Mine Inspections

Fiscal year 1977, $45,267,000; Fiscal year 1978, $49,373,000; increase of $4,106,000.

Major Program Changes

(1)	Program and management information systems	+$1,100,000; total $1,100,000 +-0- positions; total -0- positions.
	(a) Computerization of the Health Program	+$600,000

Proposal. To develop and implement an effective computer processing system for health regulations contained in the Code of Federal Regulations, Parts 70, 71 and 90. This program will implement a network of terminals at the District/Subdistrict level to support the system. Along with the terminals and telecommunication lines, the proposal will provide the necessary resources for data input, query input and response, data output distribution and informational interface with the inspection work force.

Justification. For an enforcement organization to adequately obtain the required computer support, the computing operation must be of such a nature to provide third-generation computer processing with a heavy emphasis on a telecommunication interface with a network of remote terminals. MESA recently acquired a third-generation computer with a large telecommunications capability.

A basic premise of effective data processing is that the data must be captured and entered as close to its source as possible. This is not only advantageous from the view of timely data entry but also from the aspect of error correction of data rejected during processing. The most knowledgeable source concerning the content of the data entered is the person capturing or submitting the data. If the data is entered in the fashion as it is presently, the source eventually entering the data into the computer system is two or three processing steps removed from the source originating the data. Not only is the entry processing time consuming and error prone, but the correction of erroneous data must be recycled through this same multi-step inefficient cycle. In order to have an effective computer system to support the proposed regulations, a network of terminals at the District/Subdistrict level must be implemented to support the system. Along with the terminal and telecommunications lines the systems must have adequate personnel resources to support the terminal functions of key editing, data input, query input and response, data output distribution and analysis, and informational interface with the inspection force and operators. The terminals, the lines, the newly acquired third-generation computer and the personnel are all essential ingredients to the effective enforcement systems support required by proposed respirable dust control regulations. Additionally, the absence of any one of the four factors will compromise the system to the point of lowering the support effectiveness to the unacceptable level associated with the present system.

More specifically, the above statements can be illustrated by a comparison between the major functions of the present processing system and those of the proposed system. Presently, all samples are sent to the Weighing Lab in Pittsburgh. These samples are entered daily and processed by the present computer system in Denver. If a dust sample has been rejected by some processing or key entry error, it can take from a few days up to a few weeks to find the error, through a series of phone calls, and then to correct the error. In the meantime, the operator may have been given a violation which would not have been warranted if the error had been found and

corrected in a timely fashion, or the operator may have needlessly continued to sample and submit for weighing an excessive number of samples. In either case, Federal and operator resources have been wasted. Much of this wasted effort is directly traceable to the inefficient entry process and information query procedures associated with the lack of a telecommunications system.

Under the proposed system, once an operator is placed under a violation, the samples taken to satisfy the violation are transmitted directly to the District or Subdistrict Office having enforcement authority for that mine. This step in itself will greatly reduce the time required to make a determination concerning abatement of the violation or continued noncompliance. For the District/Subdistrict to evaluate the impact of each sample taken to satisfy a violation, the information about the sample must be transmitted to the central computer system located in Denver for processing. Unless a terminal and telecommunications link are established between the District/Subdistrict and Denver Computer Center, the mail will be utilized. This mailing system is an unacceptable substitute for the telecommunications link since mailing time varies from 4 - 8 days to reach Denver. If errors exist, the data must be returned to the District and the cycle repeated. With the proper telecommunications network, the data can be entered and processed the same day. Errors can be detected and the necessary follow-up steps taken immediately. Likewise, the determination of continued noncompliance or abatement of the violation can be made with the same speed. Thus, the additional resources required to support these terminals will bring about a more timely determination of the status of a violation and eliminate the ineffective consumption of MESA and operator resources.

Another area of significant impact is the operational status of mines and the sampling status of mines, sections, non-face areas, and surface pits. The status of these units in many instances determines whether an operator is required to sample. If this status information is not entered into the system in a timely fashion, the operator may be served with an unwarranted violation or caused to sample when in fact the current status of the sampling unit does not require him to do so. This time frame, from the submission of the data by the operator to the actual processing, can average a minimum of eight days for error free data. In the meantime, a considerable amount of MESA and operator resources are spent verifying the accuracy of questionable data generated much in part by the untimely submission of mine status and other information.

Another factor that is effectively supported by a District/Subdistrict terminal operation is the timely retrieval of information requests. Presently, an operator requesting information about his sampling program must call the District/Subdistrict. The District/Subdistrict in turn calls the computer center. The information is given to the District/Subdistrict, which in turn relays it to the operator. The time between the operator requesting information and the information being supplied to the operator averages from 24 - 26 hours. During this time, the operator remains uncertain about his sampling requirements and often is forced into an inefficient and counterproductive situation. With the telecommunications link between the District/Subdistrict and the central computer system, many of these queries can be answered in a matter of seconds while the operator is still on the phone.

A model estimating the terminal and personnel requirements was developed around the proposed regulations. It considered such factors as the number of mines, mechanized mining units, 203(b) miners, sampling units in compliance at any one time, and other pertinent factors to determine the

District/Subdistrict telecommunications requirements. To effectively support the new health regulations, it is expected that the telecommunications network will input and disseminate over 32 million characters of information daily. Unless the health regulations are adequately supported with the proposed telecommunications network, they will not have their intended program impact; and the resulting inefficiencies will consume far more than the resources now requested.

Cost Factors. $156,000 for other services associated with systems and equipment implementation; and $444,000 for equipment, terminals, and line charges.

(b) Management information system +$500,000

Proposal. Develop and implement procedures to convert the existing non-automated management information system which records and retrieves all inspection events. The proposal will allow for the complete conversion to occur at all recording locations.

Justification. The Assistant Administrator for Coal Mine Health and Safety (CMHS) is responsible for the enforcement of health and safety standards promulgated under the Coal Mine Health and Safety Act of 1969. As of January of 1977, more than 5,451 underground and surface mines and related facilities were subject to CMHS inspections.

The conduct of CMHS enforcement effort involves four massive sets of documentation:

- Extensive files on the coal mines subject to inspections, including files on more than a dozen specialized plans;
- Extensive files on the respirable dust and noise standards programs;
- Detailed records on all CMHS inspections carried out in coal mines, including a detailed accounting of the violations cited during those inspections; and
- Extensive planning, analysis and evaluation documentation associated with the effective deployment of the nearly 1,200 coal mine inspectors.

Basic coal mine identification and planning information, the first category, is presently spread among computer files located at Denver, Colorado. The CMHS manual information records are spread among the 18 principal enforcement locations, and in physical documents filed in a total of nearly 400 file cabinets. Processing these sources for management planning and public information purposes is a laborious and difficult procedure.

The second set of files, related to the dust and noise programs, are automated. Information reports produced by these automated systems, however, often vary from results obtained from other data sources. Reconciliation is presently impossible because verification data on the nearly 12,000 working sections, where the nearly 150,000 coal miners work, are located in a manual record system.

The third category of documentation, the data associated with CMHS inspections and violations, are presently lodged in a decentralized manual recording system maintained in 18 District and Subdistrict Offices. The system captures more than 30 million data elements profiling the approximately 80,000 inspections conducted annually and the more than 100,000 violation-related documents associated with those inspections.

This manual data collection system is designed to allow the preparation of a limited set of routine information and statistical reports. The production of these monthly, quarterly, and annual reports requires time-consuming manual computation and, of course, is subject to the usual range of arithmetic and production errors. Consequently, the range of management and manpower planning and analysis and evaluation reports is not as extensive as desired or necessary for effective conduct of the CMHS program.

Automation of these extensive records' files will:

- permit the effective integration of presently dispersed data banks;
- result in a significant increase in routinely available management and planning information for all levels of the CMHS organization; and
- allow more sophisticated analysis of enforcement techniques and results with potentially significant increases in inspection effectiveness.

Cost Factors. This program is proposed to be contracted. Accordingly, the cost factors have been included in Object Class 25, "Other Services."

(2) Dust control program +$900,000; total $1,740,000
+45 positions; total 85 positions.

Proposal. The existing respirable coal mine dust control system was formulated without benefit of prior experience. Based on experience gained in the last six years, a new program has been developed. The new program is designed to: place the emphasis on the control of respirable coal mine dust, place the responsibility of evaluation of dust control plans through sampling with MESA, and make the mine operator's program, a program of sampling.

Justification. Coal workers' pneumoconiosis (black lung) is, by far, the most expensive residue of the inadequate health and safety protection provided in coal mines prior to the Federal Coal Mine Health and Safety Act of 1969. The black lung benefits paid by the Federal Government exceed a billion dollars annually. These are in addition to benefits paid by the states and the mining companies. Since there is no known cure for black lung, the only recourse is to prevent it. One stated purpose of the Act is to provide working conditions sufficiently free of respirable dust to prevent any disability from black lung.

The major feature of the 1970-1976 ("old") respirable dust program was taking dust samples, about 500,000 per year. This program has accomplished its objective--the dust levels in coal mines have been drastically reduced, in some cases by 15-30 mg/m^3. However, we now are working with mines which are only 1-2 mg/m^3 out of compliance with the 2.0 mg/m^3 standard. Under these circumstances a mine operator can show compliance by taking samples only when the best dust conditions prevail. Therefore, a "new" program was designed to place the emphasis on the control of respirable dust through a dust control plan implemented and maintained by the mine operator, after a dust control plan has been evaluated for effectiveness and approved by MESA inspector sampling.

83-561 O - 77 - 54

The "new" program will involve responsibility changes in both the mine operator and MESA respirable dust programs. However, these responsibilities are so interrelated that neither change will be effective unless the other is also correspondingly made. The "new" MESA inspector portion of the program was implemented last fall (1975) to the extent that personnel were available (about 40 of the 160 people needed). The "new" mine operator dust control program will be published as proposed regulations during the spring of 1977. The "old" program, the major changes to be made for the "new" program, and the expected results are discussed below.

The "old" regulations require the mine operator to sample each underground miner at least once every 180 days or more often if the miner either works on a coal production section or exercises an option to transfer. The operator has to take at least one sample a year on each miner working on the surface of either an underground or a surface mine. If one of these samples is over 2.0 mg/m^3, the operator must immediately take ten valid samples on that occupation. In addition, the operator is required to take periodic samples on the high-risk operations--those mining occupations which MESA has found to be exposed to the greatest concentration of respirable dust--in each underground coal producing section. Thus, when the high-risk area is in compliance with Federal regulations, all other occupations are assumed to be in compliance. The operator collects ten samples when the section begins production of coal. During each subsequent month, the operator collects, under the direction of a qualified person, five more samples, either monthly or bi-monthly. Compliance decisions are then made on the basis of ten valid full-shift samples. If noncompliance is determined, the mine operator is given a reasonable time to implement improved respirable dust controls and achieve compliance. During this period of time, he is required to sample each production shift. If compliance has not occurred by the end of the abatement period, the operator can be ordered to withdraw all persons from the affected area until adequate dust controls have been implemented.

Under the "old" system, mine operators must promptly transmit all of their samples to MESA's central analysis laboratory for analysis. Normally it takes up to 20 days to furnish the results of compliance and noncompliance to the mine operators and to MESA's enforcement personnel.

The "old" respirable dust program included the MESA inspector taking respirable dust samples (less than 5 percent of the total sampling) during inspections as a supplement to the mine operator samples. Dust samples were taken during regular health and safety inspections of the high-risk operation only, not on each miner.

The "new" program would replace the operator's individual miner samples with sampling at the most dusty point in each area or work position of a mine. Compliance determinations would be made with five instead of ten samples. These changes should result in a 50 percent decrease in the number of samples that are taken by mine operators and processed by MESA, with an industry savings of several million dollars.

The "new" program would provide for mine operator samples to be taken by qualified persons. This should lead to better quality control of the mine operator's samples with a significant improvement in the accuracy of these samples.

The "new" program would speed up the processing of mine operator's samples taken during noncompliance. These samples would be routed directly from the mine operator to the MESA field office instead of through MESA's central laboratory. This would allow MESA to know quickly if the operator has improved his dust levels--within a day or two instead of possibly 20 days under the "old" system.

The "new" program provides for special inspections during which five full-shift samples are taken instead of the single part-shift samples which were taken during regular inspections under the "old" program. These five full-shift samples give a much better determination of the dust level of the working section. The "new" program uses these samples to determine if the mine operator's respirable dust control plan is adequate. In addition, they are also used to determine if the section is in compliance as was done under the "old" program. This process concentrates more of the mine operator's and MESA's efforts on sections which are in noncompliance. Once an approved plan is implemented, each inspector who visits the mine can measure the engineering parameters required by the plan (air flow, spray water quantity, etc.) within a few minutes and promptly take effective steps to remedy inadequate dust controls. Under the "old" program the inspectors could take action only after spending hours or days taking dust samples. The "new" dust control program would result in increased inspection efficiency as well as more rapid correction of respirable dust problems. In addition, the miner and the mine operator should relate better to engineering parameters than to the highly technical functions of individual dust sampling, resulting in a better understanding and acceptance of the dust control program.

This "new" program, coupled with the telecommunications computer network, previously identified, would eliminate much of the wasted motion, time, and effort with which MESA and the industry are presently contending and will result in a healthier work environment for our Nation's coal miners.

Cost Factors. $531,000 for 45 inspectors (approximately nine months at the entrance level annual salary--reduced on the basis of estimated hiring lag); $53,000 for personnel benefits; $22,000 for travel and transportation; $180,000 for purchase and operation and maintenance of additional vehicles; and $114,000 for other support costs.

(3) Nonrecurring decrease — -$549,000; total -0-
+-0- positions; total -0- positions.

Proposal/Justification. Nonrecurring decrease associated with the purchase of additional motor vehicles in FY 1977.

(4) Annualization costs — +$2,655,000; total $46,533,000
+-0- positions; total 1,899 positions.

(a) Maintain current levels — $1,347,000

Proposal/Justification. In FY 1977, MESA requested and received 145 positions budgeted for approximately nine months of the year. Additional funding totaling $700,000 is required to provide the full-year costs of these positions. In addition $647,000 is requested to provide for the promotions and within grade raises of the inspection force.

Cost Factors. $982,000 for personnel costs; $98,000 for personnel benefits; $98,000 for travel and transportation of things; and $169,000 for other support costs.

Proposal/Justification. Additional funds required to annualize the FY 1977 pay increase granted by Executive Order 11941.

(c) Increased inspector pay rates and helicopter usage of surface operations +$1,100,000

Proposal/Justification. MESA is requesting a supplemental in FY 1977 to provide for (1) the additional costs associated with special pay rates recently granted by the Civil Service Commission for the Coal Mine Inspector Occupation, and (2) the use of helicopters for the inspection of surface operations. These funds are required to annualize this supplemental request.

Cost Factors. $728,000 for personnel costs; $72,000 for personnel benefits; and $300,000 for helicopter rentals.

Program Description

The primary objectives of the Coal Mine Inspection Program are to eliminate fatalities and reduce the frequency and severity of accidents as well as to minimize health hazards pertaining to the coal mining industry. To this end, MESA is recommending a FY 1978 program totaling $49,373,000.

The Federal Coal Mine Health and Safety Act of 1969 has provided both the responsibility and the authority to require that the necessary corrective action be taken while at the same time providing assistance to the operator in devising ways to correct existing hazards. The Act requires that a minimum of four complete health and safety inspections be made yearly of each underground mine to ensure a safe and healthful environment. In addition, one spot inspection of each mine classified as hazardous is required to be made every five working days; plus special inspections and investigations including roof control, ventilation, electrical, transportation, and similar items are made as required by the individual mine.

Although the Act does not specify the number of inspections for surface mines, MESA requires at least three complete health and safety inspections each year and as many special inspections and investigations as may be required to gain compliance with the Act.

In addition, thousands of special investigations are made in the mines to determine whether violations of the Act, as reported in Notices issued, have been abated in the time set by the inspector; whether conditions or practices that caused the issuance of Withdrawal Orders have been abated to the extent that the Orders can be revised or terminated; and whether Withdrawal Orders are being complied with.

The FY 1976 appropriation provided funds and manpower for the expansion of the Accident Prevention Program, which placed inspectors on a full-time basis in every underground mine employing 150 or more miners or having a disabling injury frequency rate greater than the National average of all underground coal mines. The statistical data available established a definite relationship between mine inspector presence and changes in both disabling injury and fatality frequency rates. It is expected that further reduction in disabling injury and fatality frequency rates will be attained with the continuation of this program in FY 1978.

Inspection manuals on both health and safety for underground and surface mines are updated frequently. Copies are furnished to operators and mine workers' organizations to apprise them of the application of the Act, the regulations, and the interpretation. This process will hopefully achieve better health and safety practices through a thorough understanding of what is required of coal mine operators.

In addition to the regularly required inspections each year, inspection personnel have other responsibilities such as:

- Conducting electrical, noise, respirable dust, roof control and ventilation surveys;
- Assisting in the design of noise, respirable dust, roof control and ventilation plans which they review and approve on a semiannual basis;
- Investigating all fatal and serious nonfatal accidents; and
- Developing new or improved health and safety standards.

There were 141 fatalities in 1976 compared to 155 fatalities in 1975, and 133 fatalities in 1974. The following tabulation shows areas where significant reductions have been made as well as areas where greater program effort is required.

Coal Mine Fatalities

	1974	1975	1976 1/
By Location			
Underground Mine	90	99	104
Strip and Auger Mine	26	35	25
Preparation Plant	9	9	8
Surface Area of Underground Mine	8	12	4
Total	133	155	141
By Cause			
Roof and Rib Fall	49	53	38
Haulage	18	39	33
Machinery	36	35	26
Explosion	0	0	23
Electrical	9	14	6
Other	21	14	15
Total	133	155	141
By Occupation			
Roof Bolter/Timberman	20	22	14
Laborer/Trainee	10	12	14
Supervisor	18	19	12
Motorman	6	4	9
Shuttle Car Operator	3	3	8
Utilityman	1	6	7
Tractor/Scoop Operator	4	6	6
Loader/Miner Operator	13	18	6
Roof Bolters Helper	0	5	6
Repairman	10	12	6
Miner Operators Helper	8	5	5
Truck Driver	0	10	5
Driller	4	4	4
Beltman	3	1	4
Jack Setter	0	4	4
Mine Owner	0	4	4
Bulldozer Operator	8	4	3
Brattice Man	0	0	3
Shot Firer	0	2	3
Welder	4	1	3
Electrician	0	4	2
Car Dropper	0	1	2
Oiler	2	4	2
Other	19	4	9
Total	133	155	141

1/ Figures for 1976 are preliminary.

In February 1976, MESA began a feasiblity study to develop a method whereby a mine could be evaluated and a mine profile rating given that would be indicative of the relative health and safety of that mine. The feasibility study for this program proposal was successful and the Mine Profile Rating System will be implemented as a tool that will be used to better manage coal mine health and safety inspections in FY 1977. The system identifies problem mines and determines all inspection activities at the rated mine, including those required by statutory requirements of the Act and by administrative policy with respect to surface mines. As well as relying on accident injury experience, the system takes into account the history and nature of violations, the gravity of the previous violations and the management of health and safety programs. Refinement and expansion of this enforcement tool is proposed during FY 1978.

Based on samples taken by the mine operators, over 90 percent of the underground coal mine sections are meeting the 2.0 mg/m^3 standard. This compares with a sample survey prior to the Coal Act which showed only 21 percent of the sections with 2.0 mg/m^3 of respirable dust or less. Even with the questionable accuracy of some operators' samples, this represents a marked improvement. Samples taken by Federal personnel indicate that respirable dust levels on the occupations with the greatest exposures have decreased from about 6 mg/m^3 prior to 1969 down to a present average of about 1.5 mg/m^3. Increased emphasis is proposed in this area in FY 1978 as explained in the requested expansion of the dust control program.

The frequency of fatalities caused by falls of roof and rib are far greater than any other single cause. The number of men killed by falls of roof and rib accounted for more than one-third of the underground mining fatalities in 1976 and more than half of the fatalities in 1975. Although progress has been made (15 fewer fatalities) increased emphasis, during FY 1977 and FY 1978, on better methods of roof support in all phases of mining operations and closer observation of compliance with roof control plans will hopefully combat this most dangerous hazard of underground mining.

The previously established "Winter Alert" program will be continued in FY 1978. This program is directed toward having maximum presence of enforcement personnel in the mines during the months of October through March, when the potential for mine explosions is at its height. This program is now a part of the overall enforcement effort and will continue to be so until its effectiveness is no longer realized.

Guidelines prepared for mine inspections to assure uniformity in applying the mandatory health and safety standards will continue to be updated and distributed to the industry to help in understanding the interpretations of the rules and regulations and to enhance compliance.

Examples of Recent Accomplishments

MESA has continued to expand its efforts in the area of coal refuse disposal. Regulations, which became effective November 1, 1975, require MESA to review extremely detailed and complex plans for more than 500 impoundments associated with coal mining and processing operations. Twenty-five district specialists with experience and training in embankment engineering and safety are the mainstay for initial review

and approval of the required plans. They are supported by engineering personnel at the MESA Technical Support Centers in Pittsburgh and Denver. Present efforts are being directed toward upgrading their level of training through on-the-job training and formal classroom experience. In support of this effort, remote computer access is being made available on a trial basis. This will allow specialists in certain districts to evaluate the stability and hydrology of dams using complex engineering computer programs formerly available only at MESA Techincal Support Centers. Training programs for industry were continued through the year. More than 1,200 industry personnel have been qualified to inspect sites as required by MESA regulations.

Effective April 1, 1978, illumination standards required in Section 317(e) of the Act will be mandatory in the working places of underground coal mines. This is the first time in the history of coal mining that the working faces of coal mines have been illuminated sufficiently for miners to see hazards as they develop, and such illumination must be considered a major achievement. These standards were published October 1, 1976.

For the calendar year 1975, 74,176 inspections and investigations were made in an increased variety of categories even though the number of enforcement personnel remained relatively constant. This increase in the number of inspections was primarily due to revising the method of making a complete inspection of a mine.

During the period from January 1 through November 30, 1976, 57,413 inspections were made. These are broken down to 41,344 inspections and investigations for underground coal mines and 16,069 for surface mines.

Some 121,799 Notices of Violation and 5,167 Orders of Withdrawal were issued during the period of January through November 30, 1976, compared with 111,463 and 6,142 respectively in 1975, with 81,154 and 4,905 respectively in 1974.

As an indication of annual workload requirements, Coal Mine Health and Safety District Offices granted approval to an estimated 960 roof control plans in 1975 and made 8,232 reviews of those plans already in effect. In addition, initial approvals of 116 ventilation plans and 7,848 reviews of such plans were made. A review of each plan is required at least once every six months with the intent of upgrading operations to the extent that roof falls and methane buildups are eliminated.

The previously established "Winter Alert" Program was continued in 1976. After a period of 39 months without a disaster, the "Winter Alert" Program was marred by the Scotia mine disasters which occurred in March of 1976.

Accidents which resulted in the death of five or more miners since the operative date of Public Law 91-173 (Federal Coal Mine Health and Safety Act of 1969) are as follows:

Year	Number of Fatalities
1970	38
1971	0
1972	14
1973	0
1974	0
1975	0
1976	26

The high level of compliance with the mandatory standard of 2.0 milligrams of respirable dust per cubic meter of air continued through 1976. By the end of 1976, over 145,000 miners had been provided x-rays for detection of pneumoconiosis; about 5,800 had been found to have enough pneumoconiosis to be eligible for an option to request a change to a job with lower dust concentrations, and 1,200, of which 400 were actively employed in underground coal mines, had exercised their option.

A major updating of health regulations and inspection procedures initiated in September 1974 were continued throughout 1976. One of the first priorities was the implementation of revised procedures for conducting health inspections of underground coal mines. These revisions place greater emphasis on respirable dust controls and replace "short-term" sampling procedures which had been in effect for the past three years. The prominent feature of the revised procedures is utilization of the respirable dust control plan required to be submitted by the mine operator in accordance with Section 75.316, 30 CFR 75. These health inspection procedures require MESA inspectors to conduct full-shift respirable dust sampling in underground mines.

Proposed surface health inspection procedures will be implemented early in 1977. The short-term sampling program that has been in effect will be replaced by full-shift sampling. Emphasis on respirable dust sampling inspections is being diverted to sampling during the summer months or "dry period" of the year in order to determine the higher probable dust levels.

Under the newly established "Mine Profile Rating System," safety audits have been completed at all coal mines in the United States employing 100 or more miners. This constitutes 60 percent of the Nation's total in industry employment. In addition, in a continuing effort to reduce accidents and fatalities in the coal mining industry in America, MESA implemented the impact inspection program in March 1976. This technique involves sending a team of inspectors to cover every working section of the mine. At the present time there are five general areas of coverage in planning impact inspections: ventilation, combustible materials and rock dusting, hoisting and man trips, fire protection, and haulage. These are areas in which fires and explosions are most likely to occur. They also can cause the greatest number of fatal and non-fatal accidents. In some of the mines the impact inspections are made to check conditions along the haulage routes and the belt haulageways. Since March 1976, there have been 452 impact inspections.

The following table summarizes the reduction in the disabling injury frequency rate:

Quarter Ending	Average Disabling Injury Rate for Mines Under the Accident Prevention Program	Average Disabling Injury Rate for All Mines
06-03-73	115.55	45.05
09-30-73	106.75	41.31
12-31-73	74.20	28.58
03-31-74	71.83	28.15
06-30-74	71.39	27.46
09-30-74	63.91	26.85
12-31-74	61.38	24.34
03-31-75	62.51	26.42
06-30-75	85.35	38.79
09-30-75	87.37	39.47
12-31-75	85.68	37.17
03-31-76	90.13	36.58
06-30-76	107.36	37.12
09-30-76	100.65	36.49

B. Assessment Program

Fiscal year 1977, $3,061,000; Fiscal year 1978, $3,440,000; increase of $379,000.

Major Program Changes

(1) Annualization of FY 1977 increases and maintain current levels — +$404,000; total $3,440,000; +-0- positions; total 139 positions.

Proposal/Justification. In FY 1977 Congress approved the hiring of 17 additional assessment/conference officers. To allow for the normal hiring lag, only nine months of the required funding was requested. Thus, additional funding ($100,000) is required to cover the full-year costs of this increase. In FY 1977, the Assessment Program will complete the conversion of its current record keeping systems to a new automated system. This system was designed to alleviate the growing backlog of cases and speed-up the entire assessment procedure. $294,000 will be required in FY 1978 to support this operation. An additional $10,000 will be required to annualize the FY 1977 pay increase granted by Exeuctive Order 11941.

Cost Factors. $80,000 for personnel costs and benefits; $15,000 for travel and transportation; $309,000 for other support costs.

(2) Nonrecurring decrease — -$25,000; total -0-; +-0- positions; total -0- positions.

Proposal/Justification. Nonrecurring decrease associated with the purchase of additional motor vehicles in FY 1977.

Program Description

Over $28 million in civil penalties has been collected since 1970, three-fourths of which have been collected in the two and one-half years since the current assessment procedures were put into effect in August 1974. The most equitable part of the current procedure is that an operator or miner who will be assessed a penalty is permitted to first confer with

and present evidence to the assessment officials regarding the reasonableness of the proposed assessment before it becomes a final order. Those who wish may still litigate the issues in formal proceedings at the Departmental level or in the Federal courts. Ninety percent of the assessments are now processed to completion at the MESA Assessment Office level without the costly and time-consuming formal adjudication process. MESA considers that the timely payment of the penalty enhances the effectiveness of civil penalties as an enforcement tool.

The volume of assessment activity continues to increase. A summary of the number of violations issued and the amounts of civil penalties collected by calendar year follows:

CY	Number of Violations Issued	Civil Penalties Collected
1971	68,000	$1,377,256
1972	77,600	2,910,679
1973	74,400	1,161,602
1974	86,100	4,658,665
1975	117,600	9,964,516
1976	138,000	8,521,755
1977	140,000 (est)	10,000,000 (est)
1978	140,000 (est)	10,000,000 (est)

The decrease in civil penalty collections in 1976 was due to a reduction in the number of violations assessed during the conversion to an automated system for generating assessment cases. A year by year correlation of the number of violations issued and the amount of civil penalties collected in the same year cannot be made as the amounts collected often represented violations issued in previous years.

Assessment Procedures. All violations issued by Federal inspectors are delivered to a central assessment office together with the inspector's statement detailing fully the violation, the gravity thereof, the negligence of the operator, and the efforts of the operator to achieve rapid compliance upon notification of the violation. The Assessment Office is obligated by the Act to consider these criteria together with the size of the operator's business, the history of previous violations, and the effect of the recommended penalty on the ability of the operator to continue in business. Assessment of civil penalties is made upon consideration of these six criteria.

Assessment Conference Procedures. Between April 1973 and August 1974, all violations were referred to the Office of Hearings and Appeals for formal hearing and adjudication in accordance with the Administrative Procedures Act. Under assessment procedures adopted August 1, 1974, operators and miners against whom penalties are assessed are first given an opportunity to confer with assessment officials to determine whether the assessment criteria are properly applied. At this conference, additional evidence, which may be presented by the operator, MESA, or the miners is also considered by the assessment/conference officer to determine whether the initial proposed assessment should be affirmed, increased, or decreased. The conference officers have extensive backgrounds in coal mining and experience as Federal coal mine inspectors. They are fully familiar with and know how to apply legal standards developed by the Office of Hearings and Appeals and the Federal courts.

Through the establishment of the centralized assessment office and the establishment of the MESA level conference procedures, which permits informal adjudication of disputed issues, MESA is now able to more uniformly assess violations and to collect assessments in a more timely manner.

Examples of Recent Accomplishments

Assessment Activities

MESA has completed the initial implementation of an automated assessment management information system that replaces the inadequate and unreliable systems previously used. Once this new system is fully operational, MESA will have extensive and accurate information available to both management and other interested parties.

The Assessment Office has also eliminated the backlog of old cases waiting conference or other Assessment Office action. The elmination of the backlog of old cases will now enable the Assessment Office to conduct a conference within a short time after proposed assessments are served upon the mine operators.

To further increase the program's effectiveness, a special assessment program has been initiated on a pilot basis using existing resources. Mines with hazardous conditions or practices are identified and given a special assessment that is designed to encourage improvement in the mine's compliance with health and safety standards. The special handling of these few special assessments allows for a more timely and meaningful penalty. Additional resources may be requested to expand this program if the pilot project proves beneficial and the additional workload cannot be accomplished within existing resources.

C. State Grant Program

Fiscal year 1977; $2,500,000; Fiscal year 1978, $2,500,000; no change.

Program Description

Section 503 (a) of the Federal Coal Mine Health and Safety Act authorizes grants to coal producing states. These funds are intended to assist any state, in which coal mining takes place, to develop and enforce effective coal mine health and safety laws and regulations; to improve the workmen's compensation and occupational disease laws; and to promote Federal-state coordination and cooperation.

Up until FY 1976, the requests from the states have amounted to about $1,000,000 annually. During FY 1976, requests from the states exceeded the $1,000,000 available and Congress supplemented the State Grant Program with an additional $800,000 in FY 1976 and $1,500,000 in FY 1977. These additional resources greatly enhanced the state programs in the area of education and training and contributed to increased health and safety in the mining industry.

Examples of Recent Accomplishments

The following briefly summarizes how state grant funding has been utilized by the states.

Kentucky: During the past fiscal year the State of Kentucky has instituted its training programs through Vocational Education Centers located in the mining communities. These Vo-tech Centers will train in excess of 20,000 coal miners in better health and safety techniques this fiscal year.

In addition to the above, the State of Kentucky is now requiring preemployment training before men are permitted to work underground. These men are to be trained through the use of state grant funds in conjunction with the State Department of Mines and Minerals.

West Virginia: West Virginia has a similar Apprentice Miner Training Program which was developed and is being implemented through the use of state grant funds. To date, there have been over 30,000 new miners receiving this training.

Alabama: This State utilizes Walker County Technical School for their training needs. Again, the funding for these programs comes from State Grants to the State Department of Mines.

Pennsylvania: The State Legislature of Pennsylvania recently enacted legislation that will require an emergency medical technician on each section of an underground coal mine. Through the use of state grant funds, miners are being offered, and are receiving, emergency medical technician training courses of 81 hours duration.

Other States: In the smaller coal producing states throughout the country similar training is taking place. To date, we have applications from states that produce over 96 percent of this Nation's coal.

D. GSA Space Costs

Fiscal year 1977, $1,720,000; Fiscal year 1978, $1,857,000; increase of $137,000.

This increase includes $45,000 to provide for the cost of new space requirements and $92,000 to provide for the 6 percent adjustment factor applied to the Standard Level User Charge.

2. Metal and Nonmetal Mine Inspection Program: Fiscal year 1977, $17,427,000; Fiscal year 1978, $19,271,000; increase of $1,844,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$1,755,000	+37	$18,590,000	664	Metal and Nonmetal Mine Inspections - special accident prevention/health inspection program/annualization costs/nonrecurring decrease.
(B) +89,000	--	681,000	--	GSA space costs.
+1,844,000	+37	19,271,000	664	

Program Synopsis

The objective of the Metal and Nonmetal Mine Health and Safety Program is to meet the requirements of the Federal Metal and Nonmetallic Mine Safety Act (P.L. 89-577) and effect a long-term sustained downward trend of occupational fatalities, injuries, and illnesses to workers in the metal and nonmetal mines and mills. As indicated by the Act, this objective is to be achieved through the development of health and safety standards and their enforcement through a program of mine inspections, supplemented by education and training and other related support activities.

The program attempts to balance enforcement efforts through regular inspections of all metal and nonmetal mining operations and a special emphasis program on operations with difficult health and safety problems. Based on this approach, the overall metal and nonmetal mine health and safety program is identified in three separate program elements.

- Basic Inspection Program: This program provides minimum health and safety inspections at all operations, based on requirements of individual mines. The required capability of this program is defined as providing an average of four regular inspections annually at underground mines and one regular inspection at surface operations, followed by spot inspections as required to check abatement of violations cited during the regular inspections. This program will account for 583 of the 664 total positions in FY 1978.

- Special Accident Prevention Program: This program is directed to those mines with a high incidence of injuries with emphasis on job safety analysis and accident prevention training. It differs from the Basic Inspection Program in that it provides an intensive safety inspection effort on a very small number of mines. The desired level of this program is to cover roughly 150 operations. The requested increase of 12 positions in FY 1978 will bring the total positions for this program to 32 and permit a concentrated program effort on about 40 of the most hazardous operations.

- Comprehensive Health Inspection Program: This special emphasis program is designed to provide greater health inspection efforts at those metal and nonmetal mining operations most likely to be in

violation of established health standards. A total of 4,000 operations has been targeted for eventual program coverage. The requested increase of 25 positions in FY 1978 will bring the total positions for this program to 49 and permit the program to be expanded to approximately 1,000 of these operations.

A. Metal and Nonmetal Inspection Program

Fiscal year 1977, $16,835,000; Fiscal year 1978, $18,590,000; increase of $1,755,000.

(1)	Expand Special Accident Prevention Program	+$270,000; total $870,000 +12 positions; total 32 positions.

Proposal. MESA proposes to expand its Special Accident Prevention Program of concentrated inspection effort at metal and nonmetal mining operations having high injury frequency rates. The program goal is to bring the injury frequency rates of the selected operations down to the industry average. The program calls for inspection of these operations at least once each month. The length of each inspection will vary with the size of the operation and the magnitude of the problems to be resolved. In addition to regular inspection and enforcement activities, emphasis will be placed on job safety analysis and accident prevention training as a means to achieve this program goal.

Justification. MESA's Basic Inspection Program for metal and nonmetal mines is based on conducting essentially only one regular inspection annually at each operation, except for the limited number of underground mines which will be inspected on an average of four times a year. To significantly reduce injuries and accidents in the mines requires a much greater enforcement effort than conducting a few inspections a year. Emphasis must be placed on job safety analysis and accident prevention training, requiring greater inspector presence. Maximum effectiveness can be achieved by concentrating this effort on operations with larger numbers of injuries. More than half of the disabling injuries (over 4,000) reported by the metal and nonmetal mines each year occur in about 1 percent (about 150) of the operations. The impact of a special program on these mines with a corresponding reduction in the disabling injury frequency rate of the total industry will be significant.

The requested increase of 12 additional positions in FY 1978, bringing the total to 32, will permit expanding this program to about 40 mines. Each year, mine selection for the program will be modified to achieve the objective of producing the maximum impact from a program effort based on authorized resources. Using the latest data, the 40 mines selected would have a total of about 1,700 reported disabling injuries or over 20 percent of all disabling injuries reported by the metal and nonmetal mining industry during a year. Achieving the program goal of bringing the injury frequency rates of these mines down to the industry average would mean the elimination of close to 1,000 injuries.

The following tabulation shows the results achieved over a short period of time on a test program of 33 operations implemented in FY 1976:

	FY 1976			FY 1975		
	Disabling Injuries		Disabling Injury	Disabling Injuries		Disabling Injury
Mine Type	Fatal	Non-fatal	Frequency Rate	Fatal	Non-fatal	Frequency Rate
Underground	5	959	57.05	12	1,196	74.14
Open Pit	0	194	27.05	0	346	37.00
Quarry	0	18	68.79	0	32	119.67
Mill	0	85	21.97	3	172	38.00
Total	5	1,256	44.75	15	1,746	57.71

Fatalities in the 33 operations under the test program were reduced from 15 in FY 1975 to 5 in FY 1976, a reduction of more than 65 percent. Nonfatal disabling injuries were reduced by nearly 30 percent, from 1,746 in FY 1975 to 1,256 in FY 1976. In terms of the disabling injury frequency rate, the reduction was 22 percent. With adequate resources and longer program duration, significant progress toward the achievement of the program goal can be expected.

Cost Factors. $95,000 for 7 man-years of inspection and support personnel (approximately seven months of the annual salary cost, GS-9 entrance level for inspectors--reduced on the basis of estimated hiring lag); $9,000 for personnel benefits; $36,000 for travel; $57,000 for equipment; $32,000 for automobiles (8 x ($3,500 + $500 O&M)); and $41,000 for other support costs.

(2) Expand Comprehensive Health Inspection Program — +$600,000; total $1,450,000; +25 positions; total 49 positions.

Proposal. MESA proposes to expand the coverage of its Comprehensive Health Inspection Program to about 1,000 targeted metal and nonmetal mining and milling operations. The overall program goal is to provide a higher degree of worker protection against exposure to dust, radiation, and noise hazards at operations with highly hazardous contaminants.

Justification. The Federal Metal and Nonmetallic Mine Safety Act was passed to promote both health and safety in the metal and nonmetal mining industry through the development and enforcement of health standards to prevent occupational illness and disease and safety standards to prevent accidents and injuries. However, the health program is still in a developmental stage, and current resources and level of effort do not allow a health inspection activity that can assure compliance with current regulations.

The chronic nature of occupational exposure to toxic materials results in long-term development of illness and disease as opposed to short-term reaction to injuries. An earlier joint study conducted by the Bureau of Mines and the U.S. Public Health Service indicates that in the metal and nonmetal mine work force, 3.4 percent or roughly 8,500 persons have some form of silicosis. Excessive noise has created a hearing impairment in at least 25 percent (60,000 persons) of the work force, and it is estimated that this will increase to 65 percent at the age of 65. Uranium miners have a nonviolent death rate of 232 per 100,000 above the normally expected rate of 586 per 100,000 persons per year. Based on a U.S. Public Health Service

study on underground miners as a group, accidents account for 31 deaths per 100,000 persons per year above the normally expected rate of 224, while illness accounts for 1,244 deaths per 100,000 persons per year above the normally expected rate of 2,056.

This program will allow greater health inspection efforts at those operations most likely to be in violation of promulgated health standards. It will provide the workers a reasonable protection against occupational illness and disease. It is estimated that the health conditions at some 4,000 mining operations meet the criteria for inclusion in this special emphasis program.

Personnel and funds authorized in FY 1977 were sufficient to extend program coverage to about 600 operations. The proposed increase in FY 1978 will permit the expansion of this program to about 1,000 of the targeted operations.

Cost Factors. $200,000 for 15 man-years of inspection and support personnel (approximately seven months of the annual salary cost, GS-9 entrance level for inspectors--reduced on the basis of estimated hiring lag); $20,000 for personnel benefits; $74,000 for travel; $137,000 for equipment; $68,000 for automobiles (17 x ($3,500 + $500 O&M)); and $101,000 for other support costs.

(3) Annualize FY 1977 increases and maintain current inspection levels — +$1,064,000; total $16,270,000; +-0- positions; total 583 positions.

(a) Annualize FY 1977 program increases -- +$450,000

Justification: In FY 1977 Congress approved the hiring of 64 additional metal and nonmetal mine inspectors and support personnel. To allow for the normal lag in hiring, only nine months of the required funding was included. Thus, the annualization of the FY 1977 program increases requires additional funds to cover the full year cost of salaries, travel, and operating requirements for the 16 man-years not included in the FY 1977 appropriation.

Cost Factors. $230,000 for salary costs based on GS-9 entrance grade for inspectors; $23,000 for personnel benefits; $80,000 for travel; and $117,000 for supplies, materials, and miscellaneous costs.

(b) Maintain current authorized staff -- +$550,000

Justification. Seventy-five (75) new inspectors were authorized in FY 1976 and 52 new inspectors were authorized in FY 1977. Funding requested and authorized for these positions was based on entrance grade of GS-9 although promotions to GS-12 journeyman are made after required length of service with satisfactory performance. A total of $260,000 is required to cover the salary and benefit differential between GS-11 and GS-12 for the 75 inspectors authorized and hired in FY 1976. Another $160,000 is needed to cover the differential between GS-9 and GS-11 for the 52 inspectors authorized for FY 1977. An additional $130,000 increase for salary and benefits is required to cover within-grade increases for inspectors or board prior to FY 1976.

Cost Factors. $550,000 for salary and benefits.

(c) Pay Cost Annualization -- +$64,000

Justification. Additional funds required to annualize the FY 1977 pay increase granted by Executive Order 11941.

83-561 O - 77 - 55

Cost Factors. $64,000 for salary and benefits.

(4) Base reduction -$179,000; total -0-
+-0- positions; total -0- positions.

Justification. The $179,000 proposed for reduction in FY 1978 represents funds authorized in FY 1977 (Budget Amendment) for the purchase of 52 automobiles for inspection personnel and, therefore, constitutes a nonrecurring cost in FY 1977 only. Automobile purchases for FY 1978 are included with each respective program increase.

Program Description

The principal objective of the Federal Metal and Nonmetallic Mine Safety Act (P.L. 89-577) is to promote health and safety and prevent, to the maximum possible extent, occupational deaths, injuries, and illnesses to workers employed in metal and nonmetal mines and mills. The Act requires the development of health and safety standards and their enforcement through a program of mine inspections supplemented by education and training and other related support activities.

Significant progress has been made in identifying conditions and practices contributing to disabling injuries and occupational illnesses in the industry, and considerable effort has been devoted to the development of health and safety standards as a basis to prevent the occurrence of these injuries and illnesses. With an increasing number of authorized inspectors in the last several years and increased inspections, a significantly larger number of orders and notices have been issued to assure greater compliance with established standards; and together with increased promotion of accident prevention concepts, injuries and fatalities in the metal and nonmetal mines and mills have begun to show a downward trend. This trend is shown in the following tabulations of fatalities, nonfatal disabling injuries, and overall disabling injury frequency rate for 1973-76:

	Calendar Year			
	1973	1974	1975	1976*
Fatalities	175	158	123	113
Nonfatal Disabling Injuries	8,397	8,884	8,213	5,663 (Jan.-Sept.)
Overall Disabling Injury Frequency Rate (including fatalities)	18.57	19.09	17.76	15.61 (Jan.-Sept.)

*Preliminary

However, physical conditions and production activities in mines, such as the nature of the ground, development and advancement of mine workings, completion and abandonment of old workings, installation and replacement of ground support, excessive "wear and tear" on equipment, and numerous other factors produce a continually changing mine environment and will continue to remain and cause serious problems inducive to injuries and occupational illnesses. Continued reduction of fatalities and injuries and long-term prevention of occupational illnesses can only be achieved through a much greater inspection and related enforcement effort with increased emphasis on accident prevention concepts and programs.

On this basis, the metal and nonmetal mine program is separately identified as three program elements. The Basic Inspection Program provides minimum health and safety inspections at all 15,000 or more operations in the country. The frequency of inspections for each mine is determined by its operating conditions. However, the required capability of this program element is defined as providing an average of four regular inspections annually at underground mines and one regular inspection each year at surface operations, followed by spot inspections as required to check abatement of violations cited during regular inspections.

The second element is a Special Accident Prevention Program, directed to mines with a high incidence of injuries with emphasis on job safety analysis and accident prevention training. The ultimate goal of this program is to cover roughly 150 operations, which account for approximately half of all the disabling injuries incurred in the metal and nonmetal mines each year while representing only 1 percent or less of the total number of operations in the country.

The third element is a Comprehensive Health Inspection Program, designed to provide greater health inspection efforts at mines most likely to have more serious health problems. The ultimate goal for this program is to provide the required comprehensive health inspection coverage at the 4,000 targeted operations in the country.

The proposed FY 1978 program will permit a limited expansion of the Special Accident Prevention Program to about 40 of the high-injury operations. As indicated, emphasis will be on job safety analysis and other accident prevention activities as a basis for the reduction of injuries.

Despite the increased number and frequency of mine inspections being conducted, more emphasis must be placed on the evaluation of health-related hazards. A health inspection in metal and nonmetal mining operations consists basically of a comprehensive investigation of physical hazard agents such as noise, heat stress, sanitation, etc., and air quality hazards such as dust, toxic gases, and radiation. Airborne dust containing a large fraction of silica or asbestos requires stringent dust control measures to adequately protect the miner's health. Frequent inspections at operations where these conditions exist are necessary to assure that applicable air quality standards are being met. The need for noise control is just being introduced to most metal and nonmetal operations. Noise screening measurements are being made for the first time at these operations. Those operations grossly in violation of noise standards should be inspected at least twice per year to assure compliance with hearing conservation provisions of the regulations. Frequent inspections to assure compliance with radiation standards must also be continued and expanded.

However, without additional personnel and funding, any increases in health inspection activities will be at the expense of the safety program. The serious health problems among metal and nonmetal mine workers, affliction of silicosis, extremely high death rate, and hearing impairment, have been presented in an earlier section. The requested increase in FY 1978 will also permit an expansion of the special program of comprehensive health inspections at about 1,000 of the high-health-hazard operations.

In addition to regular inspection and enforcement activities described above, all fatal accidents will continue to be investigated at the mine site. Such investigations are vital as a basis of immediately instituting necessary corrective actions.

Special programs will continue to be developed and implemented as significant problems in health or safety are defined and analyzed. One such program, implemented in early 1976 and expected to extend into the early part of FY 1978, is the joint mine environment and medical study with the National Institute for Occupational Safety and Health (NIOSH). MESA's role in this study, which covers as many as 7,000 miners in about 20 mines, involves onsite and laboratory studies to develop environmental data in mines. Together with historical data collected on these mines in earlier years, a correlation analysis will be made with medical information collected on miners by NIOSH in an effort to establish some definitive relationship between the mine environment and the miner's health.

The development and formulation of new or improved health and safety standards are a continuing and important function. Metal and nonmetal mine inspectors play an important role in this function because of their continuing onsite experience and knowledge of all phases of the mining operation. Developed standards are presented to the Federal Metal and Nonmetallic Mine Safety Advisory Committee for review and recommendation. Standards may also be promulgated by the Secretary of the Interior without the Committee's recommendation, in which case public hearings may be required.

Another important activity is the review of the Bureau of Mines research program on metal and nonmetal mine health and safety. This encompasses the identification of critical problem areas where new technology and recommendations for appropriate research and development are needed.

In accordance with the provisions of the Act, MESA may enter into agreements with the various state mine inspection agencies whereby the state agency maintains the primary responsibility for the enforcement of promulgated health and safety standards. State Plan Agreements are presently in effect in Arizona, Colorado, New Mexico, North Carolina, Utah, and Virginia.

Under the terms of the agreement, MESA retains authority to inspect mines in a State Plan State and to issue orders for imminent danger, but relinquishes its authority to issue notices of violation of Federal mandatory standards. The role of MESA, therefore, is primarily one of monitoring the effectiveness of the state agency's enforcement program and is carried out through joint Federal-state inspections, reports submitted by the state, and Federal inspections and investigations as necessary.

MESA will continue to make inspections of explosive storage facilities at mines and mills on behalf of the Bureau of Alcohol, Tobacco, and Firearms, Internal Revenue Service, under Part 181 of Title 26, Code of Federal Regulations. This is being done to prevent unnecessary duplication and overlap of activities by Federal agencies without additional compensation to MESA.

Examples of Recent Accomplishments

Fatal accidents in the metal and nonmetal mining industry reached a record low in 1976 for the second consecutive year. The preliminary total of 113 fatalities during the year was an 8 percent reduction from the record low of 123 fatalities reached in 1975 and represented a 28 percent reduction from the total of 158 fatalities in 1974. The following tabulation shows areas where significant reductions have been made as well as areas where greater program efforts are required:

Metal and Nonmetal Mining Fatalities

	1974	1975	1976
By Location			
Underground Mines	50	43	37
Open-Pit Mines	16	12	11
Stone Quarries	30	27	18
Sand and Gravel Operations	39	21	24
Mills	23	20	23
Total	158	123	113
By Cause			
Machinery	47	31	32
Haulage	27	31	31
Fall of Ground	25	10	10
Slips or Falls of Persons	19	13	7
Handling Materials	12	8	12
Sliding or Falling Material	9	6	7
Explosives	6	1	8
Electricity	7	8	3
Suffocation	0	10	2
Other	6	5	1
Total	158	123	113
By Occupation			
Miner	25	19	22
Laborer	25	11	16
Mechanic	23	14	10
Truck Driver	15	14	12
Supervisory, Staff, Foreman	16	16	14
Front-end Loader Operator	14	7	9
Other Mobile Equipment Operator	12	9	9
Machine Operator	8	6	5
Mill Worker	8	7	7
Drill Operator	6	12	4
Rail Haulage	2	5	5
Not Elsewhere Classified	4	3	0
Total	158	123	113

Continued improvement in disabling injuries was also achieved in the metal and nonmetal mining industry. The overall disabling injury frequency rate for the first three quarters of 1976 was 15.61 per million man-hours, as compared to 17.76 in 1975 and 19.09 in 1974. Improvements were registered in both the underground mines and the surface operations.

During the first ten months of 1976, over 29,000 inspections of metal and nonmetal mines were conducted by Federal inspectors. This compares with 31,000 inspections for the entire year of 1975 and 21,800 inspections in 1974.

During the same 10-month period in 1976, over 98,000 notices of violation of mandatory health and safety standards were issued to metal and nonmetal mine operators, compared to about 88,000 for the entire year of 1975 and 71,000 in 1974. The number of closure orders issued also increased significantly. More than 3,600 were issued during the first ten months in 1976, as compared to about 3,200 for the entire year of 1975 and 1,900 in 1974.

As a result of promulgated standards related to mine emergency situations, such as requirements for escape and evacuation plans, fire alarm systems, mine evacuation training, and the use and maintenance of self-rescuers, the potential for another disaster as that which occurred at the Sunshine Mine in Idaho in 1972 has been significantly reduced. Since 1972, our inspectors have investigated over 40 underground fires in metal and nonmetal mines. One of these fires resulted in the death of two miners, while over 3,000 miners were evacuated safely. The safe evacuation of all 610 miners from a major underground fire at Homestake Mine in South Dakota in May 1975 was credited by mine management directly to MESA's assistance efforts.

To evaluate the benefits of special accident prevention, a pilot program on an individual mine basis was implemented in mid-1975. This program combines special job safety analysis, education and training, increased inspection, and any other activities needed to deal with individual problems in an effort to reduce injuries in these mines. The number of fatalities in the 33 operations under the program was reduced from 15 during FY 1975 to 5 in FY 1976 (July 1975 through June 1976). Overall disabling injury frequency rate was reduced from 57.71 per million man-hours to 44.75 per million man-hours over the same 2-year period. With these successful results and with Congressional authorization of additional personnel and funding, the program is continuing during FY 1977.

Important progress is also being made in the metal and nonmetal mine health program. Comparing the first six months of 1976 with the same period in 1975, inspections involving taking personal exposure samples increased by 29 percent, industrial hygiene samples collected increased by 37 percent, and the number of mines involved in these activities increased by 41 percent.

A joint two-year mine environment and medical study with the National Institute of Occupational Safety and Health (NIOSH) was implemented in early 1976. The overall objective is to establish a definitive correlation between the mine environment and the miner's health. Plans for the study call for environmental surveys at about 20 mines and medical examinations for as many as 7,000 miners. An important feature of this study will be a mortality analysis to trace as many as possible of the 14,000 miners in an earlier U.S. Public Health Service and Bureau of Mines study and, for those who have died, to determine the cause of death. As of the end of 1976, environmental surveys by MESA had been completed at 10 mines while medical examinations of about 4,000 participating miners (about 60 percent of plan) by NIOSH were almost completed.

Another joint study with NIOSH, implemented about a year before, attempts to evaluate the health hazards in talc mines. MESA is also cooperating with NIOSH to study the health effects from mineral fibers in general. There is increasing evidence that any mineral fiber is capable of producing cancer.

Because of apparent discrepancies between the radon daughter samples collected by MESA inspectors and the employee exposure records maintained by underground uranium mine operators, a special radiation audit was initiated in 1976. During the year, MESA auditing teams visited four underground uranium mines, employing a total of more than 600 miners, and conducted "blitz" inspections of two to three week durations. Results of these audits indicate that radiation levels were far more variable than had been assumed by operators and high radiation levels were often not reflected in the employee exposure records. To correct these problems, new sampling and record keeping standards have been developed and are in the process of promulgation.

B. GSA Space Costs

Fiscal year 1977, $592,000; Fiscal year 1978, $681,000; increase of $89,000.

This increase includes $37,000 to provide for the costs of new space requirements and $52,000 to provide for the 6 percent adjustment factor applied to the Standard Level User Charge.

3. Education and Training: Fiscal year 1977, $10,713,000; Fiscal year 1978, $10,894,000; increase of $181,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)-$57,000	--	$5,916,000	188	Training Center Operations - pay cost annualization/nonrecurring decrease.
(B)+210,000	--	4,672,000	103	National Mine Health and Safety Academy - operation and maintenance/pay cost annualization.
(C) +28,000	--	306,000	--	GSA space costs.
+181,000	--	10,894,000	291	

Program Synopsis

It is in this area, Education and Training, that we believe exists one of the greatest challenges and opportunities for MESA to make its most significant strides in improving the health and safety conditions in the mines of today and of the future.

We must accept the challenge of not only citing violations, keeping statistics on fatalities and injuries, and carrying out other enforcement responsibilities, but we must also find ways for changing attitudes. We need to change our own attitude from one of a strictly enforcement function to one where we offer enlightenment and educational opportunities. We must provide industry leaders the opportunity to recognize that it is a fact that the most profitable and productive operations are those where the employees have the safest and most healthy conditions under which they work. They must be motivated to pretrain and retrain miners to keep fatalities and accidents to the bare minimum, or better yet, to eliminate them entirely. Finally, and equally important, the mine worker himself needs to recognize his responsibility in identifying and avoiding unsafe and unhealthy work practices. These are the challenges that we must meet in FY 1978.

MESA's education and training resources are devoted toward meeting these challenges and developing programs for the education and training of employers and employees in the recognition, avoidance, and prevention of accidents and unsafe or unhealthful working conditions within the mines.

A. Training Center Operations

Fiscal year 1977, $5,973,000; Fiscal year 1978, $5,916,000; decrease of $57,000.

Major Program Changes

(1) Pay cost annualization +$18,000; total $5,916,000
+-0- positions; total 188 positions.

Proposal/Justification. Additional funds required to annualize the FY 1977 pay increase granted by Executive Order 11941.

(2) Nonrecurring decrease -$75,000; total -0-
+-0- positions; total -0- positions.

Proposal/Justification. Nonrecurring decrease associated with the purchase of additional motor vehicles in FY 1977.

Although the funding remains relatively unchanged, MESA's education and training programs will undergo significant changes. Mandatory training regulations currently at the public hearing stage will become law, guaranteeing for the first time every coal miner not only occupational training, but training in identifying and avoiding health and safety hazards.

In attempting to fulfill Government responsibilities in the education and training areas, MESA is moving from the role of platform teaching to a role of assisting in developing training plans and monitoring training programs. Problem areas pinpointed by using the mine profile rating system and accident frequency rates will receive special emphasis and assistance.

Program Description

In past years, MESA's Education and Training program has assumed the role of "platform teaching." Field personnel held courses, conferences, seminars, etc., at the mine sites, as well as at the various Training Centers. Co-op instructors, who are mine workers, are certified by Education and Training to assist in training miners for mine rescue, first aid, methane monitoring, etc.

Perhaps the most important change in the role of Education and Training is the implementation of a matrix management system and redefinition of the responsibilities of the Training Center Chiefs and their staffs. This plan presents a solid and workable position concerning the major goals and objectives for the education and training activity in MESA.

It underscores the importance of education and training as a major vehicle in eliminating mining accidents, injuries, and fatalities through effective organization and management of manpower, budget, and operational activities in the field.

This matrix management concept does the following: An unfixed number of MESA mine inspectors will move in and out of Education and Training field offices on both a scheduled and critical emergency basis. Emphasis will be on mines where there are problems. Problem areas will be pinpointed by using the new Mine Profile Rating System utilized in Coal Mine Health and Safety and the accident frequency rates in Metal and Nonmetal Mine Health and Safety. These inspectors will form the core of the matrix, and they are critical to the ultimate success or failure of this management concept.

Matrix committees will be established and will meet periodically to evaluate performance of the Education and Training Field Offices to determine changes to be made and to make allocations of resources to problem areas.

The matrix design provides the flexibility and accessibility of resources so critically needed to immediately respond to problems in health and safety training and education.

The use of Duly Authorized Representative (DAR) personnel in the field matrix will require close cooperation of the Education and Training activity with Coal and Metal and Nonmetal enforcement. Joint decisions on their utilization through the matrix committees will effect a coordinated effort that can only add strength and progress to MESA's objectives.

There will be as many as 130 DAR's moving among the various Education and Training offices at any given time. Generally, they will perform functions such as accident prevention training, hazards recognition, and job safety analysis. The job of these DAR's will largely be education and training; however, they will issue notices of violation and closure orders when they see serious hazards. DAR's needing teaching skills will be given special development training at the National Mine Health and Safety Academy prior to field office assignment.

The DAR's will present an interface with Education and Training personnel who will provide MESA with both the necessary education and training expertise and years of practical and valuable experience in occupational health and safety in the mining industry. The rotation of the DAR's from inspections to Education and Training and back to inspections will give viability and strength to both functions of the organization.

With the advent of the new mandatory training regulations for coal miners, which will be promulgated prior to the close of fiscal year 1977, the workload of MESA's education and training activity will have a marked increase. Each mine will have, and follow, a comprehensive training plan meeting its own needs after being reviewed and approved by MESA. The plans are resubmitted annually, but will be adjusted more often as problems are identified through such indicators as disabling injury rates, repetitive violations, or frequent occurrences of similar accidents or injuries.

Actual training in conformance with the proposed individual mine training plan will be provided predominantly by the industry itself. This requires that MESA train and certify industry cooperative instructors to provide this required and needed training. In addition to initial training, trainer monitoring and refresher efforts are necessary to assure high-quality effective instruction.

Health and Safety Seminars are held to train Union Safety Committeemen, other Union officials, mine management, non-Union personnel, and state personnel in health and safety procedures in problem areas. Accident data are analyzed and training needs are identified and incorporated into the program at each seminar. The seminar programs are presented almost exclusively by MESA Education and Training personnel, but when necessary, personnel from other MESA areas and the Bureau of Mines are brought in to provide the expertise needed to train in problem areas.

Examples of Recent Accomplishments

A new training center located in Lexington, Kentucky, was established in June 1976. This center initiated the new management concept to be adopted by all training centers which concentrates on safety management. The Lexington Training Center was established because of a need to increase education and training activities in Kentucky and because of the diverse problems caused by the large number of small mining operations.

The Mandatory Training Regulations for Surface and Underground Coal Mines, amendments to Parts 75 and 77, Title 30, Code of Federal Regulations, were published as Proposed Rulemaking in the Federal Register; and public hearings were held in Denver, Colorado, and Charleston, West Virginia, in January 1977. The advent of the mandatory training regulations will greatly change the mining industry and will require many times more training than is now being done. Considerable time has been spent in drafting these regulations. We must look to the future to find new ways to manage this program; and more importantly, to identify and quantify the results of our efforts. In many cases, the new regulations

do not reduce the present workload--only add to it. Education and Training has begun and will continue to move away from "platform teaching" and will assume a role of monitoring training to ensure that mine operators comply with Federal regulations. Continuing efforts are being made to have mine operators do their own training.

To assist mine operators in complying with these new regulations, training models were developed. These models will assist the industry in following an orderly process in the design of mine training plans and in understanding how their plan will be approved, as well as the responsibilities required by the mandatory standards.

MESA continued participation in the Holmes Safety Association in FY 1976. This association is an unincorporated, private, national organization, whose objectives are to prevent fatalities and injuries and to improve health and safety among officials and employees in all phases of mining, metallurgical petroleum, quarrying, and allied industries. Safety topics developed and distributed by MESA are used in Holmes Safety Association's mine/mill chapters for weekly safety training sessions with participating employees.

Roof and rib falls are a major effort of the association with constant attention being directed toward reducing these hazards. Nationwide, chapter mines reported 37,075 safety meetings with over 500,000 attending.

In FY 1976, including the transition quarter, Education and Training's Seminar Program conducted 26 seminars for the coal industry, and 12 seminars for the metal/nonmetal industry throughout the country devoting special emphasis to those health and safety hazards most critical to the area.

The following audio visual educational aids were developed, produced, and distributed to the industry during 1976 as part of MESA's education and training effort:

Twelve new accident prevention training packages were developed including instruction guides and complementing multi-media audio-visual aids for nationwide distribution and use by MESA and industry personnel.

A new publication series entitled "MESA Guidebook" was initiated to augment motion picture film productions with regard to their use as a health and safety training tool. Four guidebooks have been produced and distributed to date.

Three exhibits were designed, developed and displayed at 14 mining functions such as mine rescue and first aid contests and technical, professional and educational affairs to promote health and safety and enlighten the industry of services available through MESA's efforts.

Four new miner training films were produced and three new films are in process.

MESA's education and training films were shown more than 18,000 times to over 460,000 persons during the past year; more than 2,750 prints of these films have been sold to industry for use as training aids.

Ten television safety messages were produced and six radio messages were distributed to 94 television stations and to 183 radio stations throughout the United States for use as public information spots.

Education and Training has the responsibility for overseeing a comprehensive national electrical qualification and certification program which requires 80 hours of intensive instruction and examination in order for a mine electrician to be certified. Extensive efforts were made in 1976 to certify and qualify miners to do electrical work in underground mines. Electrical accidents and fatalities have always been of concern to both MESA and the industry. This program of qualifying men to do electrical work will greatly assist in reducing the accidents and fatalities.

MESA participates in and oversees an extensive education and training program in the mining industry. Courses in roof control, ventilation, first aid, mine rescue, etc., were conducted in 1976. In order to discharge this responsibility, MESA certifies Co-op instructors who assist in this training program. In 1976, 2,429 new industry Co-op instructors were certified and trained bringing the total to 6,509. The following table indicates the type of training these, as well as MESA and state instructors, conducted during FY 1976.

Training Provided in FY 1976 (man courses) 1/

Type of Mining	Type of Instructor			
	MESA	Co-op	State	Total
Coal	35,299	435,774	33,556	504,629
Metal	5,426	43,145	301	48,872
Nonmetal	8,472	18,383	357	27,212
Sand/Gravel	4,485	1,076	143	5,704
Crushed Stone	4,028	2,952	170	7,150
Miscellaneous	17,897	38,261	3,250	59,408
	75,607	539,591	37,777	652,975

1/ Each time an individual attends a course, it is counted as a man course, therefore an individual may be counted several times.

b. National Mine Health and Safety Academy

Fiscal year 1977, $4,462,000; Fiscal year 1978, $4,672,000; increase of $210,000.

Major Program Changes

(1) Increased operating expenses +$210,000; total $4,672,000
+-0- positions; total 103 positions.

Proposal/Justification. Because of the longstanding Government policy (OMB Circular A-76) to rely upon the private enterprise system to supply its needs, MESA relies substantially on private contractors for operation of the Academy. Contracting services provide food for the student body; general janitorial services, including laundry and trash service; security services and nonrecurring operation and maintenance. These services are contracted by open market based on costs and services most advantageous to the Government. An increase of $200,000 is requested for FY 1978 in recognition of the additional costs expected to be incurred with the awarding of the FY 1978 operation and maintenance contracts. An additional $10,000 is requested to annualize the FY 1977 pay increase for the Academy staff granted by Executive Order 11941.

Cost Factors. $10,000 for salaries and benefits; and $200,000 for contracts (other services object class 25).

Program Description

The National Mine Health and Safety Academy was established to assist in the task of reducing accidents and improving the health conditions in the Nation's mines through education and training. Programs and program materials have been developed to train MESA inspection and other personnel at its educational facility or through correspondence programs.

Fiscal year 1978 marks the Academy's first complete year of activity of each of the academic and support departments in training new inspectors and mine health and safety personnel as well as retraining or otherwise upgrading the competence of veteran mining industry personnel. The fact that no major funding increase is requested for Academy operations is not reflective of its importance in furtherance of mine health and safety. The Academy is open, not only to MESA personnel, but to safety officials from industry, safety committeemen representing labor and other safety organizations, both Government and non-Government.

Principally, the Academy will train newly hired inspectors over a complete academic year with basic core courses covering the first two quarters and advance courses thereafter.

The Academy operates with three academic (Resident; Seminar; Continuing Education) and two support (Business; Research and Planning) departments. A number of programs have been developed in various mine health and safety subjects (Industrial Hygiene; Radiation; Dust Control; Noise, Accident Pevention; Safety Engineering; Mine Emergency Procedures; Investigative Procedures; Roof Control; Earth Mechanics; Mandatory Standards; Inspection Procedures). These have been presented to MESA and other mine safety personnel in the facility since the 1976 transition quarter. Classroom and laboratory (hands-on) work have been coordinated to produce meaningful job-related programs complete with actual case studies and field work. Programs are now available in 4-week modules to a total of 36 weeks. In addition, short courses are now available in many of the same subject areas. Typically, these are presented in periods of one to ten days.

In both the resident and seminar programs, all MESA employees are furnished room and board and all educational materials during their stay at the Academy; others may be charged at a per diem and course rate to be determined.

Accordingly, no funds have been included in other budget programs for room and board expenses of personnel while attending the Academy.

The Seminar Program offers short courses, seminars, conferences, and workshops in mine health and safety to personnel in all phases of the mining industry. It will provide a forum where they can meet to discuss solutions to problems related to their particular segment of the mining industry. Covering a wide range of topics from the very basic to the highly technical, approximately 3,000 students are planned to be enrolled in short courses, seminars, and resident programs of 3, 6, and 9 months duration.

The Continuing Education Department offers a wide range of courses and instructional materials in mining health, safety and technology. In CY 1976 the department produced and distributed thousands of programed instruction books and safety manuals for the entry-level miner in such subject areas as accident prevention; first aid; mine gases; roof and rib control; dust control; electrical hazards; and others are still being developed. Additional instructional materials are now being developed for the training of the experienced miner, and a continued rapid growth in publication and distribution of instructional materials is planned for FY 1978.

The Continuing Education Department in CY 1976 enrolled nonresident MESA inspectors in more than 400 correspondence courses. Enrollments are steadily increasing. The department has established a Learning Resource Center to provide reference materials in mining safety, health, technology and other subjects related to the Academy's mission. This center also provides self-study carrels, with audio-visual programs for the individual resident student. Fiscal year 1978 plans will provide an increasing capability in reference materials and audio-visual programs in support of the growing operation of this learning center.

The Research and Planning Department will evaluate the effectiveness of Academy programs, conduct instruction staff development programs, assist in research contract administration, conduct hazards anaylsis and other analytic studies to identify needs for Academy training services, and develop and analyze alternative long-range Academy plans.

Examples of Recent Accomplishments

The National Mine Health and Safety Academy was established to support MESA in its efforts to reduce accidents and improve health conditions in the Nation's mines and mineral industries through education and training. Primary emphasis during the past year was on:

- Developing programs of study for MESA inspection and other personnel interested in mine health and safety.

- Preparing textbooks, laboratory manuals and other educational materials for use by MESA and other students at the Academy and in the field.

- Training MESA and other personnel interested in mine health and safety.

- Determining the effectiveness of various Academy and other health and safety education and training programs.

- Ensuring the cost-effective use of available resources.

All program and support activities have been assigned to five organizational groups. These groups were established and staffed throughout the year in support of the Academy's mission responsibilities as follows:

- The Resident Department. Planned, developed, and presented mine health and safety courses at the Academy for MESA inspection and other personnel.

- The Seminar Department. Managed timely single-topic mine health and safety training programs at the Academy, and elsewhere as required.

- The Continuing Education Department. Developed and provided mine health and safety programs to nonresident MESA students. In addition, it operated a Learning Resource Center for resident and nonresident students.

- The Office of Research and Planning. Evaluated the effectiveness of Academy programs, assisted in education research contract administration, conducted hazards analyses, and developed and analyzed alternative long-range plans for the Academy.

- The Business Office. Provided the facilities, equipment and services needed to support the Academy's mission.

During the past fiscal year, 1,517 students attended training programs at the Academy for a total of 14,438 student days. This included 363 trainees from Coal Mine Health and Safety, 213 from Metal and Nonmetal Mine Health and Safety and 941 from other segments of MESA, the Department of the Interior and various mining groups (principally those associated with the United Mine Workers of America). Both technical (e.g., basic electrical; dust; noise; radiation; accident prevention) and non-technical (e.g., Kepner-Trego, Managerial Grid; Communications; MBO) courses were presented by Academy staff members, other MESA employees and contract employees (NIOSH; Penn State).

C. GSA Space Costs

Fiscal year 1977, $278,000; Fiscal year 1978, $306,000; increase of $28,000.

This increase of $28,000 provides for the 6 percent adjustment factor applied to the Standard Level User Charge.

4. Technical Support: Fiscal year 1977, $14,205,000; Fiscal year 1978, $15,895,000; increase of $1,690,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$1,609,000	+21	$15,477,000	419	Technical Support - approval and certification/illumination and electrical/roof and ground falls/ventilation/ mine emergency operations/ annualization costs/non-recurring decrease.
(B) +81,000	--	418,000	--	GSA space costs.
+1,690,000	+21	15,895,000	419	

Program Synopsis

MESA's technical support program enforces statutory requirements relating to the approval and certification for use in mines of equipment, instruments, materials, explosives and personal protective apparatus and the collection, analysis and publication of injury and illness data from the mining industry; provides direct support to MESA's enforcement programs by establishing technical criteria for environmental controls for health protection, weighs respirable dust samples taken under the Coal Act, analyzes all samples taken by metal and nonmetal inspectors; evaluates safe design of mine ventilation and ground control plans, power distribution and illumination systems and mine waste disposal; and maintains MESA's equipment for locating and rescuing miners trapped in emergency situations. As required in support of MESA enforcement efforts, Technical Support investigates problems of compliance with health and safety standards and recommends state-of-art solutions. Responsibilities also include liaison with BOM, NIOSH, and other Federal agencies in the development and conduct of mine health and safety research programs and dissemination of research results to other segments of MESA.

Program changes requested include activities in approval and certification and in providing assistance to enforcement in pretesting power distribution and illumination systems, roof and ground control, ventilation, and mine emergency operations.

A. Technical Support Programs

Fiscal year 1977, $13,868,000; Fiscal year 1978, $15,477,000; increase of $1,609,000.

Major Program Changes

(1) Approval and certification +$150,000; total $2,125,000
+3 positions; total 66 positions.

Proposal. To expand the capability for approval and certification actions to a level that will handle the 28 percent workload increase projected for FY 1978 and will simultaneously maintain integrity of approvals and assure MESA, mine operators and miners that approved items are manufactured in accordance with approved standards. Turnaround time (backlog) for applications will be reduced to that required for the testing process.

Justification. Figure I shows how the approval and certification workload (applications) and output (actions) have increased since 1974 due to (1) a greater demand by the mining industry for equipment, instruments and materials, and (2) additional requirements for safety devices placed on mine operators by mandatory regulations. Applications received during the first seven months of 1976 amount to over 70 percent of the total 1975 workload. Improved administrative procedures, including streamlining of application paperwork, have allowed the 1976 workload to be handled while reducing the 1975 backlog by 20 percent. With the small staff increase authorized for FY 1977, it is expected that the backlog can be further reduced--hopefully to an average three months from the present six months--even after assuming a 28 percent increase in total applications. Further, the increasing frequency of fatal and nonfatal disabling injuries attributed to machinery and equipment will mandate imposition of more stringent safety requirements and more extensive approval actions during FY 1978.

Technical Support's strategy for handling the increased workload in approval and certification without excessive Federal expenditures is to initiate a program which will permit or require pretesting by the applicant under rigid, prescribed testing standards and procedures.

Cost Factors. $75,000 for 3 engineer positions; $7,000 for personnel benefits; $20,000 for travel; and $48,000 for other support costs.

(2) Illumination/electrical +$100,000; total $775,000
+2 positions; total 22 positions.

Proposal. To expand the Electrical Systems Laboratory's capabilities for accepting illumination systems to include metal and nonmetal mines; to expand a certification program for equipment and luminaire manufacturers to test illumination systems for coal mines; to certify MESA's illumination calibration meters; to accept ground check monitors; and to establish criteria for mine communications systems.

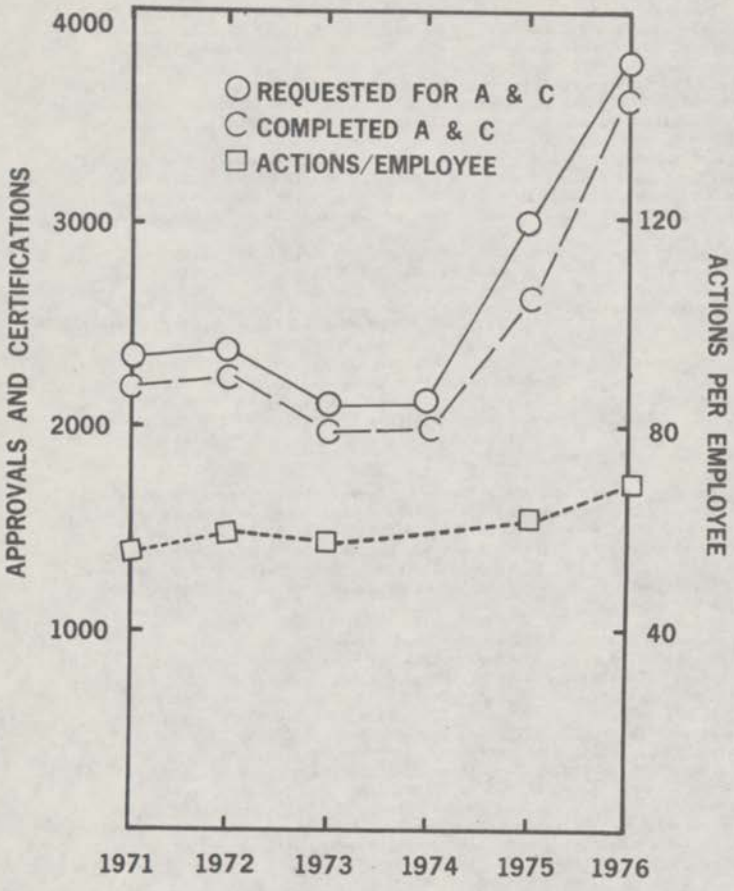
Justification. The mandatory illumination regulations recently promulgated for all coal mines have caused a demand for similar regulations in the metal and nonmetal mines. These will be proposed by FY 1978. Significant differences in mining systems, shaft and tunnel dimensions, and equipment sizes in the metal/nonmetal mines will require development of substantially different methods and procedures for testing and evaluating illumination systems for compliance.

Enforcement of the coal mine illumination regulations is based on pretesting machine-mounted lighting systems for compliance. Under the regulations, illumination must be provided after April 1978 in all working sections of coal mines. There are now 3,580 sections operating in 1,675 underground mines which will require over 8,000 mining machines, loaders, cutters, roof drills, etc. to be retrofitted with lighting systems. The possible combinations of lighting systems that require pretesting on these different models of mining equipment during FY 1977 and FY 1978 is estimated to exceed 6,000. This testing and evaluation of illumination systems in the mine simulator can be accomplished at the rate of about 8 machines per week. This would produce a first year backlog of 5,600 for retrofitting existing equipment only, without including any new mining equipment testing.

83-561 O - 77 - 56

FIGURE I

APPROVALS AND CERTIFICATIONS
BY THE MESA'S TECHNICAL SUPPORT
APPROVAL AND CERTIFICATION CENTER



However, since complete testing of all combinations of illumination systems is not practical, a certification program has been developed. Mining equipment manufacturers may install their own mine simulators and be certified by MESA. Under the certification program, MESA will review the data and conduct a quality assurance program to ensure compliance with the standards. Although testing and evaluation of illumination systems will still be a necessary function at the Laboratory for coal mine operators and small equipment manufacturers and for verification of data furnished by certified equipment manufacturers, routine testing would be eliminated and the certification program improved.

With the addition of metal/nonmetal illumination testing for more than 650 underground mines, it is apparent that the Laboratory's technical staff could not meet its other testing requirements. These include testing ground check monitors and other power distribution components (Figure II), testing and evaluating the safety of remotely controlled equipment, and testing new communications systems being introduced into the mines at an accelerating rate.

Consequently, the proposal asks FY 1978 funding for two additional positions and for communications testing equipment.

Cost Factors. $40,000 for 2 engineer positions; $4,000 for personnel benefits; $6,000 for travel; $25,000 for the purchase of 2 automobiles and communications testing equipment; and $25,000 for other support costs.

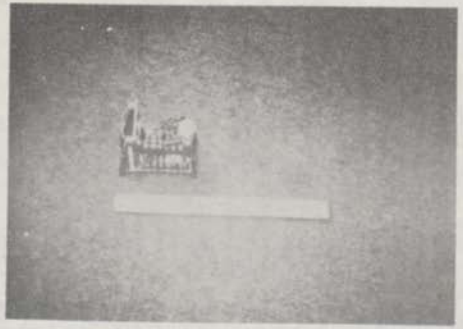
(3) Roof and ground falls — +$300,000; total $950,000
+8 positions; total 27 positions.

Proposal. To restore to the minimum required level MESA's capability for investigating roof and ground control failures and provide criteria and technical assistance to coal and to metal and nonmetal enforcement in approving plans submitted by mine operators.

Justification. Technical assistance is provided to enforcement's effort to curb fatalities and injuries from falls of roof and ground by: (1) investigating support failures and recommending special techniques and precautions to be taken in mines having unusual problems; (2) evaluating new mining methods and roof support products to determine if these are acceptable for incorporation in roof control plans; (3) investigating variance requests by mine operators; (4) establishing design criteria for cabs and canopies required to be installed on mobile face equipment in coal mines and evaluating systems proposed for use in lieu of canopies to determine if approval can be granted. Roof, rib, and face falls remain the number one killer in coal mines. From 1970 through 1975, 341 lives were lost to roof falls. The toll would have been over 400 had cabs or canopies not prevented the certain death of over 60 men. Within the last two years cabs or canopies have been installed on about half the face equipment in use.

The workload associated with cab and canopy design and the investigation of support systems submitted by operators to be used "in lieu of" cabs or canopies has far surpassed initial projections. The regulations are phasing in the requirements as a function of seam height with seams 42 inches and higher now obligated to install cabs and canopies. Technical problems of installation in lower seam heights are more complex and many more "in lieu of" petitions are expected than the 30 handled in FY 1976.

FIGURE II



300 Volt DC to DC Converter

Field Testing of a 600 Volt DC to DC Converter

Field Testing of 300 Volt DC to DC Converter on Roof Bolter

Installation of Wireless Monitor Components in Mining Machine

Since each petition requires two man-months of effort, the five-man staff devoted to cabs and canopies will not be reduced for at least the next three years. During FY 1978, criteria must be developed for cab and canopy installations in metal and nonmetal mines.

Cab and canopy work started in 1973 and has been handled by the same engineering staff at Pittsburgh and Denver which formerly concentrated entirely on roof and ground control. This same staff has also been involved with waste impoundment safety control. As a result, current efforts to prevent support failures is only 25 percent of the pre-1973 level in spite of internal reassignments to rebuild the program. Of the 341 fatalities in coal and 99 in metal and nonmetal mines, cab or canopy protection might have saved 140 lives, but only prevention of roof and ground falls would have prevented the remaining 200 deaths. One such death is described in the attached Fatalgram (Figure III).

Three new factors will increase the workload in FY 1978. First, ground control plans will be required for metal and nonmetal mines which will more than triple the enforcement requests now utilizing five technical support man-years. Second, new coal mine openings are expected by FY 1978. Many of these will be at greater depths with attendant severe roof support problems. Third, the present use of longwall and shortwall systems at 58 coal faces is anticipated to double by the end of FY 1978. Massive research expenditures are being made to promote these higher productivity methods. For this effort to succeed, longwall safety criteria must be developed.

A minimum support level in roof and ground control in FY 1978 involves 350 field and laboratory investigations, 100 percent more than the 175 programed for each of the past two years. This level can be reached by adding eight positions, approximately equally divided between coal and metal/nonmetal assignments.

Cost Factors. $129,000 for 8 engineer and technician positions; $14,000 for personnel benefits; $40,000 for travel; $50,000 for the purchase of 4 automobiles and other equipment, and $67,000 for other support costs.

(4) Ventilation +$400,000; total $1,100,000
+8 positions; total 33 positions.

Proposal. To increase mine ventilation engineering assistance in supporting MESA's enforcement efforts for the purpose of ensuring adequacy of, and compliance with, mine ventilation plans by establishing teams to quickly conduct ventilation surveys of all sections of an entire mine, with staffing to survey 100 problem mines annually.

Justification. Adequate ventilation is the primary means of controlling the health hazards of respirable dusts, radon, and toxic emissions from equipment and of diluting and keeping methane concentrations at safe levels. Maintaining adequate ventilation can pose complex engineering problems in large gassy coal mines and multilevel deep metal and nonmetal mines. Constant vigilance is required in day-to-day operations of all underground mines to avoid exposing miners to hazards. The Scotia explosion demonstrated that monitoring ventilation on a section-by-section basis does not ensure that all sections are in compliance. While airflow measurements are part of every inspection, there is a need for special ventilation surveys of mines found to have problems as well as a need for in-depth examination of plans submitted for ultra-gassy mines and for mines using diesel-powered equipment. Ventilation problems with diesel equipment in metal and nonmetal mines are being defined in current

FIGURE III

UNITED STATES
DEPARTMENT OF THE INTERIOR
MINING ENFORCEMENT & SAFETY ADMINISTRATION
WASHINGTON D.C. 20240
Metal & Nonmetal Mine Health & Safety Activity

FATALGRAM

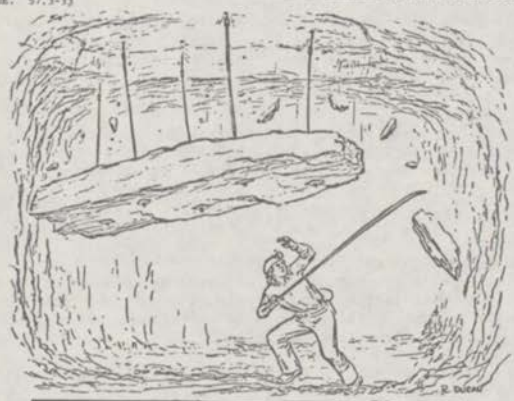
AUGUST 20, 1976

A YOUNG MINER WITH LESS THAN ONE YEAR EXPERIENCE WAS SCALING LOOSE ROCK WHILE WAITING FOR HIS HAULAGE VEHICLE TO BE LOADED. HE BARRED DOWN A KEY ROCK FROM AN ARCH NEAR THE RIB. A SLAB 10 FEET LONG, 4 FEET WIDE, AND 2 FEET THICK FELL FROM THE ARCH CRUSHING THE VICTIM.

THE ROCK THAT FELL FROM THE ARCH HAD BEEN BOLTED WITH 5 ROCK BOLTS 6 FEET LONG WHICH DID NOT HOLD. THE EXPANDING SHELLS HAD BEEN SCREWED 12 TO 15 INCHES DOWN THE BOLT; INDICATING NON-ANCHORING OF THE SHELLS. THE ROCK BOLTS HAD NOT BEEN TORQUED TO ANY SPECIFICATION.

RECOMMENDATIONS:

1. THE MINE OPERATOR MUST ESTABLISH A GROUND SUPPORT PROGRAM CONSISTENT WITH THE NATURE OF THE GROUND AND MINING METHODS USED. 57.3-20 (MANDATORY)
2. SUPERVISORS SHALL INSIST THAT CORRECT TESTING AND GROUND CONTROL PRACTICES ARE BEING FOLLOWED. 57.3-22 (MANDATORY)
3. NEW EMPLOYEES MUST BE TRAINED IN SAFETY RULES AND SAFE WORK PROCEDURES. 57.18-6(MANDATORY)
4. ROCK BOLTS WHEN USED FOR GROUND CONTROL SHOULD BE INSTALLED IN SUCH A MANNER TO PROVIDE SAFE AND EFFECTIVE GROUND SUPPORT. 57.3-30
5. TORQUE METERS OR TORQUE WRENCHES SHOULD BE AVAILABLE AT MINES WHERE ROCK BOLTS ARE USED FOR GROUND SUPPORT. PERIODIC TESTS SHOULD BE MADE TO DETERMINE IF BOLTS MEETS RECOMMENDED TORQUE. 57.3-33



DEATH TOLL JANUARY THRU JULY				
YEAR	Underground	Surface	Mills	Total
1975	30	40	12	82
1976	19	23	13	55

DO YOUR PART TO KEEP THE TOLL DOWN!

Arthur P. Nelson
ASSISTANT ADMINISTRATOR

76-18

SAFETY IS EVERYBODY'S BUSINESS

MESA/NIOSH surveys. Diesels are being introduced in coal mines; 180 pieces of equipment now are in 25 coal mines. Specific ventilation regulations for their use will be promulgated in FY 1978, and will significantly increase MESA's Technical Support workload.

Although ventilation problems have increased in scope and complexity, the level of ventilation activity has remained static for the past four years and is not now adequate to handle requests from the enforcement organizations.

The proposal is to increase staff by eight positions to provide ventilation engineers to work with ventilation specialists from District Enforcement Offices as compliance survey teams able to complete an air quality/quantity survey of an average mine in two days. With this staffing complement 100 mines can be surveyed annually. If problems are found, an immediate follow-up study will provide in-depth recommendations to the District Manager and mine operator.

Cost Factors. $129,000 for 8 engineer and technician positions; $14,000 for personnel benefits; $42,000 for travel; $143,000 for equipment, including the purchase of 1 automobile; and $72,000 in other support costs.

(5) Mine Emergency Operations — +$200,000; total $920,000
+-0- positions; total -0- positions.

Proposal. To improve the capability of MESA's seismic equipment for locating trapped miners by acquiring and field testing research-developed equipment and techniques.

Justification. MESA's present equipment for locating and rescuing miners trapped underground and inaccessible by conventional rescue teams working through the mine was delivered from a research contract completed in 1971. There has been only the maintenance of capability with little field testing and no upgrading of system capability since that time. Seismic locating is reliable to 1,000 feet at most mines; it is questionable below 1,500 feet at some mines. BOM has completed research to improve seismic location capability. During FY 1977, a BOM/MESA cost-shared series of tests will determine the major extent to which MESA's equipment should be improved. In FY 1978, equipment and contractor funding is requested to incorporate these research improvements.

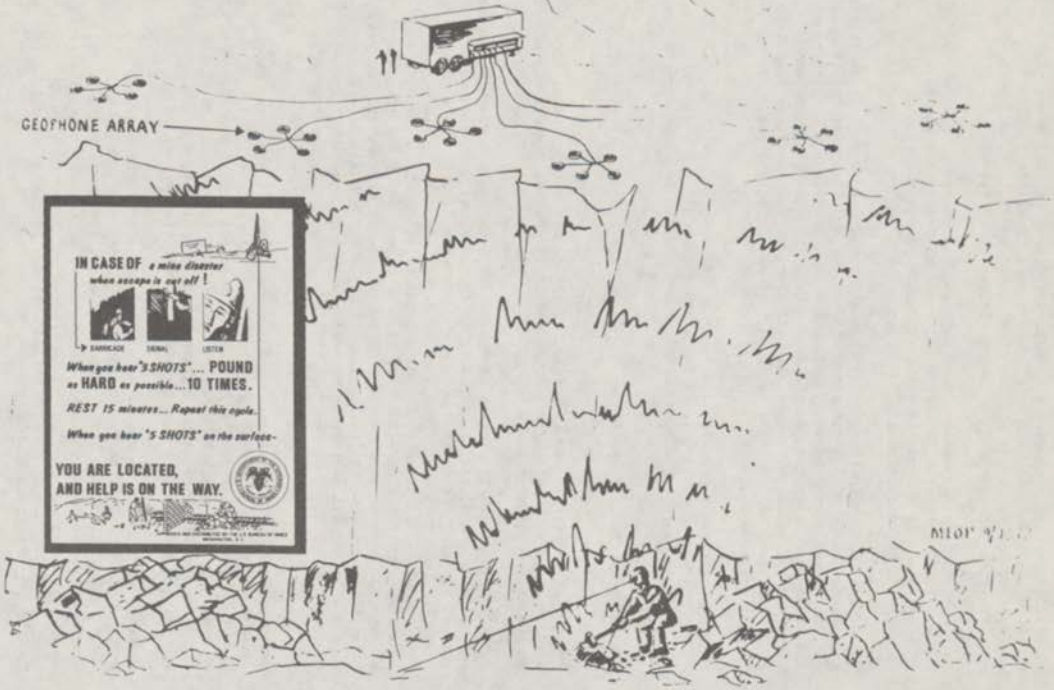
Every underground coal and most metal/nonmetal miners have been taught seismic signalling and will have the instruction sticker, shown on the system schematic of Figure IV, affixed inside his cap for reference in an emergency from which he cannot escape. This represents, in effect, a Federal guarantee of seismic system ability to locate him through his signaling efforts. MESA must not fail to meet his expectations.

Research continues on a potentially more reliable electromagnetic beacon and communication system for every underground miner, but commercial availability is not expected before 1980. In the interim, miners are entitled to the best seismic location equipment available.

Cost Factors. This program is funded entirely by contracts with non-Federal organizations.

SEISMIC LOCATION SYSTEM

FIGURE IV



(6) Annualization of FY 1977 increases and maintain current level of operations	+$1,023,000; total $9,607,000 +-0- positions; total 271 positions.

Proposal/Justification. Additional funding is required to provide for the annual costs of increases granted in FY 1977 ($583,000), annualize the FY 1977 pay increase ($43,000), and to maintain the current level of operations ($397,000). This includes program annualization costs for the 30 positions included in the FY 1977 budget as well as staff annualization and operating costs for the Heavy Equipment Testing Laboratory added by the Congress.

Cost Factors. $491,000 for personnel costs; $50,000 for personnel benefits; $47,000 for travel and transportation; and $435,000 for other support services.

(7) Nonrecurring decrease	-$564,000; total -0- +-0- positions; total -0- positions.

Proposal/Justification. During FY 1977, Congress appropriated an additional $750,000 for mechanical and explosive environmental testing. $500,000 is the nonrecurring cost of constructing the additional facilities. The additional $64,000 reduction is the nonrecurring cost of vehicles purchased in FY 1977.

Program Description

MESA's Technical Support organization is responsible for statutory functions assigned by the Administrator under the Coal and Metal/Nonmetal Acts and for direct support of MESA's enforcement organizations in achieving compliance with existing standards and in developing new and improved standards.

Statutory responsibilities are delegated to Technical Support for:

- Collection, analysis, and publication of accident, injury and illness data from the mining industry under 30 CFR 58 and 80;

- Testing and approving for mine use under 30 CFR: respiratory protective apparatus (Part 11), explosives and related articles (Parts 15-17), electrical equipment and instruments (Parts 18-29) and mechanical equipment; and

- Certification or acceptance of materials, assemblies and safety features as required for compliance under regulations of 30 CFR 70, 75, 77, and 55, including personal respirable dust samplers, flammability and toxicity of materials, roof bolt assemblies, cab and canopy designs, designs submitted for use in lieu of canopies, automated temporary roof supports, fire detection and suppression systems, brakes, panic bars, ground check monitors, and face illumination systems.

Technical Support directly assists enforcement through such assignments as conducting the weighing and analysis of respirable dust samples taken by mine operators under the Coal Act and analyzing all samples of respirable dust and mine atmosphere taken by metal and nonmetal health inspectors. Calibration facilities are provided for specialized instruments used by inspectors. MESA's equipment for locating and rescuing miners trapped in emergency situations is maintained under this program.

The enforcement procedures of both the coal and metal and nonmetal organizations require technical support in health and safety investigations and evaluations as a basis for actions taken by them; the environmental data to support revisions of health enforcement procedures; the engineering evaluating of ventilation, fire control, roof and ground control; design of mine waste disposal structures to support approval of plans submitted by mine operators; and the development of standards and regulations from the standpoint of technical feasibility.

When the enforcement districts encounter nonroutine technical problems involving compliance with any health or safety regulation or work practice, Technical Support's specialists conduct investigations and make recommendations to the districts. Requests for compliance assistance made under Section 502(b) (assistance to mine operators), are referred to Technical Support when they cannot be handled at the district level. Evaluation of requests from mine operators for variances from standards or of problems cited by labor unions and investigations conducted in support of the Solicitor's Office are a significant part of overall activities. Technical Support also is MESA's prime contact with research conducted by the Bureau of Mines, NIOSH, industry, other Government agencies and academic institutions.

To handle these assignments, a broadly based staff of professionals with mining experience including mining, electrical, mechanical, soils, structural, explosives and safety engineers, chemists, health physicists, noise control specialists and industrial hygienists are maintained together with analytical and testing laboratories at the following locations:

Pittsburgh Technical Support Center -- Pittsburgh, Pennsylvania

Major Programs: respirable dust control, noise control, toxicity of materials and environmental control, fire prevention, mine ventilation, roof control, blasting practices, industrial safety, electrical power distribution and coal waste disposal.

Denver Technical Support Center -- Denver, Colorado

Major Programs: industrial hygiene in metal and nonmetal mines, noise control, radiation control, mine ventilation, ground control, blasting practices, mine waste disposal, hoisting and equipment safety, and electrical safety.

Electrical Systems Laboratory -- Beckley, West Virginia

Major Programs: pretesting illumination systems for compliance, approval of ground check monitors, and electrical safety.

Approval and Certification Center -- Pittsburgh, Pennsylvania

Major Programs: testing and approval of equipment, instruments, materials and explosives as prescribed in 30 CFR standards.

Mining Equipment and Safety Laboratory -- Dallas Pike, West Virginia

Major Programs: new facility under construction for testing safety components of heavy mining and haulage equipment and developing recommendations for design changes and new standards.

Health and Safety Analysis Center — Denver, Colorado

Major Programs: collection and publication of accident, injury and illness data reported by mine operators; preparation of statistical reports required by MESA enforcement and training organizations; statistical analysis of trends in injury frequency and causes; in-depth studies of hazards and causal factors associated with specific types of accidents.

Office of Assistant Administrator--Technical Support — Arlington, Virginia

Major Programs: program planning, direction, evaluation, and administration; maintenance of MESA's mine emergency operations equipment; coordination with Bureau of Mines health and safety research program; dissemination of technical support and research results within MESA and to labor and industry.

About 60 percent of the overall Technical Support effort is directed to assistance of MESA's Coal Mine Health and Safety organization and to statutory responsibilities under the 1969 Act; 35 percent to assistance of the Metal and Nonmetal Health and Safety organization; and the remaining 5 percent is divided between Education and Training programs and assistance to Bureau of Mines research programs.

In recognition of an increase in the number of health and safety engineering investigations, the number of accidents, employment and production reports processed, research projects evaluated, approval and testing actions taken, and dust samples processed, managerial action had to be initiated to meet this increased workload. One action was an internal consolidation of the approval and certification functions into a separate center for single-point accountability; combining groups with similar, but potentially overlapping functions under two new divisions--one for health-related and one for safety-related work--at the Pittsburgh and Denver Centers; and combining staff offices with two line divisions at the Health and Safety Analysis Center. The use of work plans to inventory and track work at the Center has been broadened into a management by objectives system and is now being formalized for FY 1977.

Examples of Recent Accomplishments

Three major new programs were undertaken in FY 1976:

- Regulations were promulgated requiring submission by coal operators of designs for coal waste impoundments; Technical Support expended 16 man-years on engineering reviews for Coal Mine Health and Safety.

- Regulations were promulgated for illumination of face areas of coal mines. An illumination simulator was designed and built and is in operation to pretest and accept lighting systems; six man-years were utilized in support of these regulations.

- A long-sought agreement was reached with NIOSH to conduct a comprehensive health effects' survey of metal and nonmetal miners. MESA's obligation is to conduct extensive environmental surveys in each of the 19 mines selected for the survey and perform the analysis of the samples. Nine have been surveyed to date. Approximately 18 man-years have been expended since the study was initiated.

The Scotia mine disaster on March 9, 1976, increased MESA's Technical Support workload. This included the furnishing of ventilation and safety engineers,

analytical laboratory support, and mine emergency operations assistance, which amounted to over five man-years. This support is continuing as the mine is being recovered.

These new demands could be met only by reassigning priorities and people. Increases also occurred in workload of other established Technical Support functions. Ventilation, ground support, mine emergency operations and research assistance have been discussed. The steps taken in approval and certification to reduce processing time of applications also have been described including stringent time accountability, streamlining and standardization of procedures. Together with the temporary detailing of people from other functions, these improvements are allowing a 28 percent increase in applications to be handled and at the same time reducing the current backlog.

Examples of improved efficiency from other functions include:

- Injury and employment form flow to the Health and Safety Analysis Center increased 10 percent in FY 1976 and has been processed with four fewer people. Forms now are processed on the day of receipt eliminating the previous three-day lag. Output reports increased 50 percent with the lag time on these reports reduced from ten to six working days.

- The number of dust samples processed under 30 CFR 70 increased from 480,000 in FY 1975 to 530,000 samples in FY 1976. This was accomplished with the same manpower but at a lesser cost by installing new encoding machines.

- A change in underground mine sampling procedures has reduced the reject rate for silica analyses required by 30 CFR 70. This increased the silica analyses performed from three to six per day.

New equipment and more sophisticated techniques were incorporated to improve MESA's technical capability in FY 1976. Examples are:

- Two deep coal mines in District 9 were experiencing severe roof control problems (5 fatalities) due to faulting not predictable from surface mapping. Satellite photographs, enhanced by NASA equipment, showed major fault zones paralleling mine development. By requiring the operator to alter his development plan to cross the zones at right angles, roof falls were nearly eliminated. Technical Support has obtained image enhancement equipment on loan from the Bureau of Reclamation and had professionals trained by NASA, so that mining area imagery can be scanned quickly and inexpensively for geologic factors that should be considered in approving roof control plans.

- Completion of the first digital computer programs for simulating ventilation air flows in deep multilevel metal and nonmetal mines, coupled with the introduction of hand calculators specifically programed for coal mine ventilation calculations, increases MESA's capability for analyzing ventilation plans.

- Acquisition of portable nondestructive test equipment to monitor the integrity of components critical to the safety of man-carrying hoists.

The following information briefly quantifies some of the accomplishments of Technical Support during 1976:

1,159 health and safety engineering investigations were completed.
165,000 accident, employment, and production reports were processed.
2,400 approval and testing actions were completed.
550,000 coal mine dust samples were processed.
20,700 samples were analyzed for Metal and Nonmetal Health and Safety.
3,500 MESA and industry representatives were given technical training.
144 technical reports and scientific presentations were published or presented.

MESA's Technical Support's objective is to provide specialized engineering assistance to the enforcement activities, Federal and state agencies, and the mineral and allied industries in carrying out the requirements of the Federal Coal Mine Health and Safety Act of 1969 and the Federal Metal and Nonmetallic Mine Safety Act of 1966. As our national requirements for energy and minerals increase, it will be our objective to assist in the development of more effective and safer methods of mining.

B. GSA Space Costs

Fiscal year 1977, $337,000; Fiscal year 1978, $418,000; increase of $81,000.

This increase includes $21,000 to provide for the cost of new space requirements and $60,000 to provide for the 6 percent adjustment factor applied to the Standard Level User Charge.

5. Program Administration: Fiscal year 1977, $2,188,000; Fiscal year 1978, $2,536,000; increase of $348,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$343,000	--	$2,450,000	74	Program Administration - employee compensation payments/pay cost annualization.
(B) +5,000	--	86,000	--	GSA space costs.
+348,000	--	2,536,000	74	

Program Synopsis

The objective of this program is to provide effective executive direction and administrative management support to MESA's health and safety programs designed to control health hazards and to reduce fatalities in the mineral industries.

A. Program Administration

Fiscal year 1977, $2,107,000; Fiscal year 1978, $2,450,000; increase of $343,000.

Major Program Changes

(1) Employee compensation payments +$338,000; total $1,041,000
+-0- positions; total -0- positions.

Proposal/Justification. The increase of $338,000 represents the amount required to reimburse the Department of Labor, Office of Workers Compensations Programs of the Employment Standards Administration. A total of $1,041,000 is included in this request for reimbursement to the Employee Compensation Fund for service-related disability payments paid in FY 1976 as required by Section 209 of Public Law 86-767.

Cost Factors. Benefit payments, $338,000.

(2) Pay cost annualization +$5,000; total $1,409,000
+-0- positions; total 74 positions.

Proposal/Justification. Additional funds required to annualize the FY 1977 pay increase granted by Executive Order 11941.

B. GSA Space Costs

Fiscal year 1977, $81,000; Fiscal year 1978, $86,000; increase of $5,000.

Major Program Changes

(1) GSA space costs +$5,000; total $86,000
+-0- positions; total -0- positions.

Proposal/Justification. This increase of $5,000 provides for the 6 percent adjustment factor applied to the Standard Level User Charge.

Program Description

The objective of this program is to provide effective executive direction and administrative management support to MESA's health and safety programs. Executive direction includes the Administrator's immediate office and staff offices responsible for equal opportunity, information services, and program and legislative review. Administrative management includes such essential functions as program planning, development and budget activities; financial management programs, including payroll and reporting; personnel management, including recruitment, classification, employee development, labor relations and wage administration; organization and staffing management; contracting for supplies, equipment, and other services; records management activities, including correspondence, files forms, reports, and committee management; procurement operations; and real and personal property management.

The general administrative costs of MESA are financed in part from this activity and by additions to program funds. These costs, their distribution, and further program description are included under the following section entitled Common Program Services.

COMMON PROGRAM SERVICES

Common Program Services: Fiscal year 1977, $12,757,000; Fiscal year 1978, $14,242,000; increase of $1,485,000. This program is a nonadd item for which funds are included in the appropriation requests of the various operating programs of MESA.

I. Description of Program

A. Program Element Table (Funding):

Element	FY 1977 Amount Available	FY 1978 Estimate	(+) or (-) change FY 77 to FY 78
1. Executive Direction.....	$1,508,000	$1,545,000	+$37,000
2. Administrative Management..	3,054,000	3,130,000	+76,000
3. ADP Program Support.....	2,509,000	3,002,000	+493,000
4. General Supporting Ser. ...	5,686,000	6,565,000	+879,000
Total.....	12,757,000	14,242,000	1,485,000

B. Program Element Table (Staffing):

Element	FY 1977 Positions	FY 1978 Positions	(+) or (-) change FY 77 to FY 78
1. Executive Direction.....	43	43	--
2. Administrative Management..	136	136	--
3. ADP Program Support.....	54	54	--
4. General Supporting Ser. ...	--	--	--
Total.....	233	233	--

C. Program Synopsis (by Element)

1. Executive Direction - Provides for the overall direction of the Mining Enforcement and Safety Administration, composed of a headquarters element in Arlington, Virginia, and health and safety district and sub-district field offices, assessment field offices, training centers, the National Mine Health and Safety Academy, and Technical Support centers, throughout the United States.

a. Major Program Changes

(1) Executive Direction +$37,000; total $1,545,000
+-0- positions; total 43 positions.

(a) Proposal - To provide additional funding to cover increased costs of operations such as pay raises, travel, or training necessary to the overall executive direction responsibilities.

(b) Justification - Executive staff are essential in the effective operation of any organization. They provide the direction and line supervision over mission responsibilities.

b. Program Description. The objective of the Executive Direction Program is for the Administrator, who is responsible to the Assistant Secretary--Energy and Minerals, to direct all of the activities of MESA as specified in the Federal Coal Mine Health and Safety Act and the Federal Metal and Nonmetallic Mine Safety Act, or other related activities. Also included under this program element are the various staff offices that assist the Administrator in carrying out his responsibilities in the areas of equal opportunity; Congressional and legislative liaison; information services, including publication and distribution of the MESA magazine; and for administrative and program review of the overall effectiveness of the total mission responsibilities.

2. Administrative Management - Provides general administrative support for all MESA programs. This program element includes the costs of administrative services that cannot be readily assigned directly within a program area or function and are commonly funded on a clearing account basis, e.g., fiscal examining and accounting, contracting, property and supply, personnel management, records and communications, management improvement, and budgeting and program development.

a. Major Program Changes

(1) Administrative Management +$76,000; total $3,130,000
+-0- positions; total 136 positions.

(a) Proposal - To provide additional funding to cover increased costs of operations such as pay raises, travel, or training necessary to the provision of effective administrative management.

(b) Justification - Administrative staff are required to provide for orderly processing of financial transactions, contracting and procurement actions, personnel actions to staff other program positions, and to provide for the proper management and accounting of Federal funds, equipment, and property.

b. Program Description. The objectives of the Administrative Management Program are: (1) to continue to provide administrative services to ensure that the other operating programs of MESA are provided support in relation to financial transactions, personnel actions, procurement actions and the management and accountability of Federal funds, equipment and property; (2) to provide for financial management services, payrolling and other administrative functions which are more economically and effectively operated at a centralized location to serve all MESA installations. Staffing for these programs are stationed in the Arlington headquarters and in service centers located in Pittsburgh, Pennslyvania, and Denver, Colorado.

3. ADP Program Support. Provides for administering the MESA-wide ADP Program. This includes the development and implementation of policies, guidelines, and standards relating to all phases of ADP, including liaison with the Department on all ADP activities. This includes advice, consultation, and assistance in developing automated management and administrative systems, providing ADP systems and programming services, and monitoring ADP activities for compliance with established standards, guidelines, and regulations.

a. Major Program Changes

(1) ADP Program Support +$493,000; total $3,002,000
+-0- positions; total 54 positions.

(a) Proposal - Computerization of the Management Information System and the redesign of the Dust Information System currently employed by Coal Mine Health and Safety.

(b) Justification - Detailed justification for this proposal is included under Coal Mine Health and Safety's section of this budget justification. Briefly summarized, the proposal is composed of two separate programs. The first is a redesign of the Computer Processing System used to obtain information relative to the health regulations set forth in Parts 70, 71, and 90 of the Code of Federal Regulations. Utilizing a network of terminals at the District/Subdistrict level, enforcement personnel will have immediate access to information determining the continued compliance or non-compliance with the regulations, or abatement of violations of respirable dust standards. The second program involves the computerization of data contained in inspection or other records that are currently maintained by manual operation. Once the program has been developed and the information machine coded, inspectional personnel, utilizing the same network of terminals, can obtain within a few minutes, vital information such as mining plans, violations, education and training assistance, and a myriad of other data pertinent to the mining operations on his inspection schedule.

83-561 O - 77 - 57

(c) Cost Factors - A total of $444,000 has been included in the program request for Coal Mine Health and Safety (Computerization of Parts 70, 71, and 90) for equipment, terminals, and line charges. The balance of the increase, $49,000 is needed for salaries and related costs of MESA's centralized ADP staff. The following table provides information on the categories of cost for FY 1977 and FY 1978.

Category of Cost	($000) 1977	($000) 1978
Personnel Compensation & Benefits & Travel	1,413	1,462
Equipment, Rental & Operating Costs	1,096	1,540
Total	2,509	3,002

b. Program Description. The ADP Services Program objectives are: (1) to provide an in-house capability for modern data processing and management information systems; (2) to provide financing for a centralized ADP facility to achieve economy of scale and effective program coordination which will adequately serve the needs of ADP users within MESA; and (3) to test alternative system approaches at the request of program managers.

Major ADP efforts have been directed to the development and implementation of an automated system for use in connection with the assessment of civil penalties. Now that this program is operational, time can be devoted to the conversion and updating of ADP programs for processing within MESA's computer facilities and in providing officials with program and management data that previously were unavailable.

4. General Support Services - Provides for general expense items which are not practical to distribute to the various program elements within MESA.

a. Major Program Changes

(1) General Support Services +$879,000; total $6,565,000
+-0- positions; total -0- positions.

(a) Proposal - To provide additional funding for increasing costs common to all of MESA's programs. Specifically, increases are forecasted for Employee Compensation Payments, space and facilities, and telephone and postage charges.

(b) Justification - Most of the items included under this program element are not subject to control by MESA. For example, the rates charged by GSA for occupied space are determined elsewhere. Other items, such as FTS charges are not known until after the appropriation process. Nevertheless, the above amount represents MESA's best estimate of increases associated with the provision of necessary common support services. Reduction in these items or the centralized method of procurement will undoubtedly result in increased costs to individual program areas.

(c) Cost Factors - The following table details the estimated cost increases of selected specified items.

	1977	1978	Increase
Employee Compensation Payments...	$703,000	$1,041,000	$338,000
Leased Space-GSA..	3,008,000	3,345,000	337,000
Space & Services--Bur. of Mines...	975,000	1,029,000	54,000
Common Support Services.....	1,000,000	1,150,000	150,000
Total.....	5,686,000	6,565,000	879,000

b. Program Description. The General Support Services provide for general expense items common to all program areas. This program includes, but is not restricted to: Employee Compensation Payments; FTS; postal services; headquarters telephone services; xeroxing and general office supplies; general printing items such as letterhead, envelopes, forms and MESA manuals; purchase of Congressional bills, hearings, and other legislative materials; Departmental payroll costs; and other Departmental services requested by or benefiting MESA.

II. Distribution of Additions to Appropriated Accounts

Common Program Services are developed as a separate operating program of MESA and is justified on its own merits. The program involves functions or services which are in support of the other programs within MESA, but for which costs cannot readily be identified directly to the program benefiting from the services. However, since the program directly supports other MESA programs, its costs are financed by distributing a portion of the total program as an addition to the amounts requested for those benefiting programs.

Several methods are used in distributing common program services. Facility rental from the General Services Administration and the Bureau of Mines is distributed to the benefiting program based on occupancy. These costs are for GSA space specifically identified in each of MESA's budgetary activities. However, because of the impracticability of distributing the applicable amount to each accounting cost center, the program has been included as a Common Program Service and centrally funded.

Program managers determine the budget and cost distribution of MESA's ADP Program Support Center. Each manager develops ADP plans which include both short- and long-range initiatives. These program proposals establish ADP's operating framework and determine ADP cost distribution with special emphasis programs charged to the benefiting program.

Other common service support items are distributed proportionately to MESA's programs based on Congressional funding levels. Examples of these support items include general printing of items such as envelopes and letterhead, postal service charges and FTS costs.

The program justifications therefore include regular program funds and the additions for common program services. The following table summarizes the additions made by activity for FY 1978.

Coal Mine Health and Safety.....	$6,112,000
Metal/Nonmetal Mine Health & Safety...	1,973,000
Education and Training.....	1,390,000
Technical Support.....	2,231,000
Program Administration.....	2,536,000
Total.....	14,242,000

MINING ENFORCEMENT AND SAFETY ADMINISTRATION

SALARIES AND EXPENSES

For expenses necessary to promote health and safety in mines and in the minerals industry through development, promulgation, and enforcement of regulations, including mine inspections, technical support, and education and training as authorized by law, [$93,740,000] $105,766,000: Provided, That no part of the funds appropriated by this Act shall be used to pay any public relations firm for any promotional campaigns among coal miners. (30 U.S.C. 1-11, 721-740, 801-960, Department of the Interior and Related Agencies Appropriation Act, 1977)

ADMINISTRATIVE PROVISIONS

Appropriations and funds available to the Mining Enforcement and Safety Administration may be expended for purchase and bestowal of certificates and trophies in connection with mine rescue and first-aid work, and for the purchase of not to exceed [19] 75 passenger motor vehicles: Provided, That the Secretary is authorized to accept lands, buildings, equipment, and other contributions from public and private sources and to prosecute projects in cooperation with other agencies, Federal, State, or private: Provided further, That the Mining Enforcement and Safety Administration is authorized to promote health and safety education and training in the mining community through cooperative programs with States, industry, and safety associations: Provided further, that any funds available to the Department may be used, with the approval of the Secretary, to provide for the costs of mine rescue and survival operations in the event of major mine disasters.

SALARIES AND EXPENSES

Supplemental now requested, existing legislation

For an additional amount for "Salaries and Expenses", $1,100,000.

EXPLANATION OF MOTOR VEHICLE PURCHASE

Until FY 1976 MESA along with other civilian agencies obtained its motor vehicle requirements from the General Services Administration motor pools on a reimbursable basis. Since FY 1976 GSA has been unable to meet the requirements for additional motor vehicles and has granted the Department of Interior the authority to procure its additional motor vehicle needs.

This is the first year our request for additional motor vehicles has been included in the budget request. At the time GSA notified the Department of its inability to provide additional motor vehicles FY 1976 had already begun and the FY 1977 budget had been presented to Congress. Recognizing our needs and situation,Congress approved a supplemental request for the purchase of 230 motor vehicles in FY 1976 and a budget amendment for the purchase of 195 motor vehicles in FY 1977.

GSA is still unable to meet our additional motor vehicle requirements. Consequently, this budget request contains additional funding and language for the purchase of 75 additional motor vehicles in FY 1978. MESA is requesting 103 additional positions in FY 1978. The majority of these positions are either coal and metal/nonmetal inspectors or technical engineers. These individuals will be required to travel to the mines to either conduct inspections or offer technical assistance to help resolve particular engineering problems.

We are therefore requesting approval for the purchase of an additional 75 motor vehicles in FY 1978.

DEPARTMENT OF THE INTERIOR

MINING ENFORCEMENT AND SAFETY ADMINISTRATION

Program and Financing
(In thousands of dollars)

14-1200-0-1-553	1976 Actual	19TQ Actual	1977 Estimate	1978 Estimate
Program by Activities				
Direct Program:				
1. Coal Mine Health and Safety Inspections....	44,810	12,047	52,548	57,170
2. Metal and Nonmetal Mine Health and Safety Inspections.....	13,100	3,925	17,427	19,271
3. Education and Training..	12,557	3,405	11,986	10,894
4. Technical Support.....	10,411	2,834	14,205	15,895
5. Program Administration..	2,188	555	2,188	2,536
Total Direct Program..	83,066	22,765	98,354	105,766
Reimbursable Program.....	17	3	--	--
Total Program Costs Funded 1/.....	83,083	22,768	98,354	105,766
Change in Selected Resources (Undelivered Orders).....	-1,906	1,151	--	--
10 Total Obligations.....	81,177	23,919	98,354	105,766
Financing:				
11 Offsetting Collections From: Federal Funds.....	-17	-3	--	--
21 Unobligated Balance Available, Start of Period....	-770	-4,075	-1,273	--
24 Unobligated Balance Available, End of Period.....	4,075	1,273	--	--
25 Unobligated Balance Lapsing.....	--	20	--	--
40 Budget Authority.....	84,465	21,134	97,081	105,766

Budget Authority:				
40 Appropriation.....	84,465	20,934	93,740	105,766
42 Transferred From Other Accounts.....	--	200	--	--
43 Appropriation (adjusted)...	84,465	21,134	93,740	105,766
44.20 Supplemental Now Requested for Civilian Pay Raises...	--	--	3,341	--
Relation of Obligations to Outlays:				
71 Obligations Incurred, Net..	81,160	23,916	98,354	105,766
72 Obligated Balance Available, Start of Year.....	11,758	8,781	12,203	9,783
74 Obligated Balance, End of Period.....	-8,781	-12,203	-9,783	-10,327
77 Adjustments in Expired Accounts.....	110	-25	--	--
90 Outlays, Excluding Pay Raise Supplemental....	84,247	20,469	97,567	105,088
91.20 Outlays From Civilian Pay Raise Supplemental.....	--	--	3,207	134

1/ Includes capital outlays as follows: 1976, $812 thousand; TQ, $0; 1977, $2,300 thousand; 1978, $950 thousand.

Note: The above schedule excludes a supplemental now proposed for increased inspector pay rates and helicopter usage at surface operations. A schedule for the proposed supplemental follows:

Program and Financing (in thousands of dollars)

14-1200-1-1-553	1976 Actual	19TQ Actual	1977 Estimate	1978 Estimate
Program by Activities:				
1. Coal Mine Health and Safety Inspections (Costs--Obligations)...	--	--	1,100	--
Financing:				
Budget Authority (proposed Supplemental Appropriation).....	--	--	1,100	--

Relation of Obligations to Outlays:

71	Obligations Incurred, net..	--	--	1,100	--
72	Obligated Balance, Start of Period.....	--	--	--	35
74	Obligated Balance, End of Period.....	--	--	-35	--
90	Outlays.....	--	--	1,065	35

DEPARTMENT OF THE INTERIOR

MINING ENFORCEMENT AND SAFETY ADMINISTRATION

SALARIES AND EXPENSES

OBJECT CLASSIFICATION (in thousands of dollars)

14-1200-0-1-553	1976 Actual	19TQ Actual	1977 Estimate	1978 Estimate
Direct Obligations:				
Personnel Compensation:				
11.1 Permanent Positions	51,526	13,989	60,023	64,503
11.3 Positions Other Than Permanent	820	217	900	900
11.5 Other Personnel Compensation	523	148	593	593
Total Personnel Compensation	52,869	14,354	61,516	65,996
12.1 Personnel Benefits: Civilian	5,496	1,341	6,454	7,241
21.0 Travel and Transportation of Persons	4,970	1,234	6,100	6,529
22.0 Transportation of things.	1,401	329	1,800	1,891
Rent, Communications, and Utilities:				
23.1 Standard Level User Charges	2,596	650	3,008	3,348
23.2 Other Rent, Communications, and Utilities.	2,379	971	2,374	2,524
24.0 Printing and Reproduction	480	217	423	490
25.0 Other Services	3,600	1,125	6,307	8,952
26.0 Supplies and Materials	2,003	439	1,944	2,190
31.0 Equipment	2,923	1,829	3,819	3,769
32.0 Lands and Structures	508	405	830	330
41.0 Grants, Subsidies, and Contributions	1,321	626	2,500	2,500
42.0 Insurance Claims and Indemnities	9	4	6	6
Total Direct Obligations	80,555	23,524	97,081	105,766

Reimbursable Obligations:				
11.1 Personnel Compensation: Permanent Positions....	8	3	--	--
12.1 Personnel Benefits: Civilian.....	1	--	--	--
21.0 Travel and Transportation of Persons.....	8	--	--	--
Total Reimbursable Obligations.....	17	3	--	--
Total Obligations, MESA.....	80,572	23,527	97,081	105,766
ALLOCATION TO GENERAL SERVICES ADMINISTRATION				
32.0 Lands and Structures.....	605	392	1,273	--
99.0 Total Obligations.....	81,177	29,919	98,354	105,766

Note: The above schedule excludes a supplemental now proposed for increased inspector pay rates and helicopter usage at surface operations. A schedule for the proposed supplemental follows:

14-1200-1-1-553	1976 Actual	19TQ Actual	1977 Estimate	1978 Estimate
Direct Obligations:				
11.1 Permanent Positions.....	--	--	728	--
Total Personnel Compensation.....	--	--	728	--
12.1 Personnel Benefits.....	--	--	72	--
25.0 Other Services.....	--	--	300	--
Total Obligations.....	--	--	1,100	--

Personnel Summary

	1976 Actual	19TQ Actual	1977 Estimate	1978 Estimate
Total number of Permanent Positions	3,149	--	3,470	3,573
Full-time Equivalent of Other Positions	109	--	112	112
Average Paid Employment	3,053	--	3,358	3,451
Average GS Grade	9.69	--	9.70	9.81
Average GS Salary	$17,221	--	$17,511	$17,443
Average Salary of Ungraded Positions	$12,546	--	$12,546	$12,546

DEPARTMENT OF THE INTERIOR
MINING ENFORCEMENT AND SAFETY ADMINISTRATION
SALARIES AND EXPENSES

DETAIL OF PERMANENT POSITIONS

	1976 Actual	1977 Estimate	1978 Estimate
GS-18	1	1	1
GS-16	6	6	6
GS-15	47	47	47
GS-14	91	95	96
GS-13	293	298	308
GS-12	1,028	1,140	1,290
GS-11	499	615	631
GS-10	3	3	3
GS-9	295	314	227
GS-8	22	22	22
GS-7	100	106	115
GS-6	99	100	100
GS-5	182	185	185
GS-4	243	258	252
GS-3	194	228	238
GS-2	36	42	42
Subtotal	3,139	3,460	3,563
Ungraded	10	10	10
Total permanent positions	3,149	3,470	3,573
Unfilled positions, September 30	-86	-140	-140
Total permanent employment, end of year	3,063	3,330	3,433

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

BUREAU OF MINES

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

Highlight and Summary Statement

Minerals are a fundamental component of the Nation's material and economic base. They are the foundation of the U.S. economy, the high standard of living enjoyed by its citizens, and the Nation's position of dominance in world affairs. Without a continuous supply of minerals to meet growing and changing needs, the basic character of our society would be much different. The key role of minerals in the economy is significant in terms of their relationship to the Gross National Product. Although basic minerals, including metals, nonmetallics and fuels, constitute a relatively small fraction of the total GNP in their raw form, their value is increased threefold to as much as $300 billion by the application of labor, capital, technology and enterprise in the minerals processing and energy generation industries. The processed materials and energy, in turn, are the essential ingredients of the total GNP comprised of both goods and services. The role of minerals in the economy and the degree to which the Nation is self-sufficient in these vital materials are illustrated by the charts following the summary statement.

The U.S. must seek to sustain a healthy and reasonably stable minerals economy. Any threat to the continued availability of minerals and their orderly flow throughout the economy must be considered a national problem. The interdependence of minerals and their complex relationships to other aspects of national life are so far-reaching in their influence that the Federal Government must ensure that the Nation has adequate supplies.

The need for minerals was reemphasized by the Congress in 1970 when it enacted the Mining and Minerals Policy Act which clearly and forcefully voiced the need for the Federal Government, through the Secretary of the Interior, to assure the continued viability of the domestic mining, minerals, metal, and mineral reclamation industries and to promote research on and economic development of the Nation's mineral resources. Nowhere has this mandate been taken more seriously than within the Bureau of Mines which today seeks:

> "To ensure the continued viability of the domestic minerals and materials economy and the maintenance of an adequate minerals base, so that the Nation's economic, social, strategic and environmental needs can be better served."

Although brief, this mission statement indicates that the Bureau of Mines activities necessarily involve considerations well beyond the more traditional scientific role envisioned at its inception 66 years ago. As our increasingly sophisticated society imposes ever greater demands on minerals development and utilization, so must the base of knowledge employed by the Bureau in fulfilling its mission under its Organic Act and subsequent legislation increase in scope.

Long-Range Goals and Strategy

The U.S. Government faces unprecedented obstacles and uncertainties in its efforts to assure the domestic economy an adequate supply of minerals at reasonable costs. These stem from the increasingly complex and unsettled nature of issues surrounding the whole subject of minerals and fuels acquisition and utilization, exacerbated by the critical energy situation, increasing world competition for limited minerals supplies, environmental constraints,

83-561 O - 77 - 58

and increasing costs, to name a few. Although our energy problems have been well publicized, those involving other minerals are not as widely or as well known. In addition to investigations undertaken by the Department of the Interior in its unique role under the Mining and Minerals Policy Act, recent major studies and analyses by the National Commission on Materials Policy, the National Commission on Supplies and Shortages the National Academies of Science and Engineering, and the National Science Foundation, to name a few, have indicated that broad-scale minerals problems are emerging that are not only national, but international in scope. Drawing upon these studies in addition to its own work, the Bureau of Mines continually undertakes comprehensive assessments of the overall minerals, metals, materials and fuels situation as the foundation for its program strategy.

To permit the development of a balanced set of programs and resource allocations aimed at maximizing the Bureau's contributions to achievement of the Nation's mineral objectives, the Bureau of Mines continually assesses the benefits, the costs and the risks involved among the various alternatives available to it. In so doing, the Bureau articulates three key prerequisites to informed action:

- Recognition of minerals problems confronting the Nation;
- Establishment of long-range goals that are related to the problems and are proper for Federal Government involvement; and
- Development of strategies to be pursued toward achievement of the goals and solution or alleviation of the problems.

As a result of this continuing effort, the Bureau has adopted long-range goals to which its integrated research and development activities and its unique capability in mineral information gathering and supply and demand analysis each seek to:

- Expand Domestic Minerals Availability
- Minimize Supply Vulnerability
- Reduce Social, Occupational and Environmental Costs of Mineral Activities
- Reduce Mineral and Energy Waste

To pursue these goals, the Bureau of Mines pursues multiple strategies within its research and development and supply/demand analysis mandate. The common goal of these efforts is to provide fundamental mineral knowledge needed by both Government and industry to effectively alleviate the variety of mineral problems. The strategic approaches of the overall Bureau of Mines program range from scientific research on minerals and materials properties to large-scale demonstrations of innovative mining and metallurgical technology to the dissemination of minerals supply/demand information. These activities are performed in all the 50 States (as shown on the map following this discussion) by a cadre of well-trained and experienced mining, minerals, and materials scientists, engineers, economists and information specialists. The functional mechanism through which the efforts of these professionals are brought to bear upon minerals problems and directed toward achievement of objectives is the Bureau of Mines operational program.

Fiscal Year 1978 Program Strategy

The overall strategy proposed for FY 1978 by the Bureau of Mines addresses three basic themes or problems that are fundamental in and pervasive to the

domestic minerals economy. These are:

- Domestic minerals availability
- Worker health and safety and environmental protection, and
- National energy self-sufficiency

Domestic Minerals Availability

The United States, once largely independent of foreign mineral supplies, now imports a substantial share of its mineral requirements. Some minerals we import because we have few known sizeable deposits of our own--chromium and platinum, for example. Some of the minerals that we import, such as bauxite, could be replaced by plentiful low-grade domestic substitutes but this does not appear to be economically feasible at this time. The growing dependence on foreign mineral producers and countries makes the Nation increasingly vulnerable to critical mineral supply disruptions which would impose significant adjustment costs on the U.S. economy or threaten national security.

In the FY 1978 strategy, the Bureau of Mines has specifically responded to these challenges and problems by advocating a comprehensive program that emphasizes research and development on near-term technical solutions to many pressing minerals availability problems. Specifically, the Metallurgy Research Activity is expanded to provide technology on broad segments of the minerals industry with emphasis on reducing the Nation's dependence on critical mineral imports.

Similarly, the Bureau's proposed efforts in Data Collection and Analysis to assess the ocean mineral resource base and to evaluate promising techniques for recovering ocean minerals, addresses many important minerals availability and Federal regulatory issues. This new initiative would advance the Department of the Interior's analytical capability in the areas of ocean mineral resource assessment, regulation, and economics.

The Data Collection and Analysis Activity would be expanded to focus much greater attention on providing mineral policy, investment, supply and demand information on a more timely basis, to more end users, and in greater detail particularly on those critical commodities for which the United States is largely dependent on foreign sources of supply. Moreover, an expanded program for assessing the impact of critical economic, land use, regulatory, etc. decisions on domestic minerals availability should enhance future Government minerals policy and decision making.

Worker Health and Safety and Environmental Protection

With the passage of the Federal Metal and Nonmetallic Mine Safety Act of 1966 and the Federal Coal Mine Health and Safety Act of 1969, Congress authorized a materially strengthened research and development program that would give first priority to the health and safety of miners by lowering the probability of mine accidents and occupationally caused diseases.

The proposed strategy for FY 1978 places emphasis on these problems through continuing efforts in coal and metal mine health and safety. In each of these efforts, the Bureau pursues short range health and safety improvements that can be quickly transferred to the mine and also more enduring, long-term health and safety benefits obtained from research and development aimed at

designing the hazards out of the mining system, thus minimizing the threat of accidents due to human error.

The Bureau is also increasingly concerned in FY 1978 with reducing the social and environmental costs associated with air pollution, water pollution, land-use conflicts, waste disposal, metals toxicity, and mined-area reclamation. The external costs in these situations must be balanced against the need for minerals production.

National Energy Self-Sufficiency

The success of the Nation's drive for energy self-sufficiency depends upon ample supplies of clean fuels at acceptable economic, environmental, and social costs. In support of this national effort, the Bureau's Mining Research Activity has responded with a major technological effort in improving the extraction of coal--our most abundant and most readily available energy resource for at least the near- and mid-term. Moreover, the extraction of oil from shale and the beneficiation of coal are important Bureau efforts aimed at increasing national energy self-sufficiency.

For FY 1978, the Bureau's major energy related priority is its coal preparation research program which would be substantially expanded to permit early attainment of the projected benefits from much greater direct firing of coal in the Nation's boilers and furnaces and from increased, safe use of abundant domestic high sulfur coals.

Other Considerations in Fiscal Year 1978

Federal Employee Health and Safety

Protecting Bureau employees from accidental injury or job-related illness is a continuing concern of Bureau management. Many of the Bureau's research activities involve possible hazardous operations, such as working with toxic, corrosive, or flammable chemicals, explosives, hot metal, or radiation sources. Prudent management has continually emphasized maintenance of conditions and work procedures which reduce these risks to a minimum. Passage of Federal Occupational Safety and Health legislation and the issuance of Executive Order 11807 has prompted increased emphasis on these health and safety questions. Most Bureau research facilities were constructed and equipped long before the enactment of the most recent standards, and recent stringent standards mandate some needed improvements. The Bureau therefore is requesting $1.0 million in FY 1978 to correct the more severe problems in its several laboratories.

Status of Authorizations

Substantive authorization for programs within Mines and Minerals is provided only for Coal Mine Health and Safety Research by the Coal Mine Health and Safety Research Act of 1969. The Act authorizes appropriation of not to exceed $30 million per year, and the FY 1978 budget request for this program is $30 million.

Program Effectiveness

In FY 1976, the Bureau established a new Office for Program Development and Evaluation which brought together previously dispersed planning, budgetary and evaluative activities. The staff of the Office functions to improve the flow of information to Bureau decisionmakers, to assure the consideration of all relevant information, and, through the planning process, to establish priorities among the various Bureau programs. The Office also has overall responsibility for initiating and conducting program impact and efficiency evaluations, and for integrating planning, evaluation and policy decisions into the Bureau's budget process.

Evaluation activities within the Bureau are expected to be fully operational by FY 1978. The purpose of evaluation will be to measure the effectiveness of Bureau of Mines efforts in terms of solving or alleviating problems relating to minerals; in terms of contribution to achievement of strategic objectives; and in terms of program effectiveness in carrying out the strategies. Since the programs themselves are composed of hierarchical arrays of subprograms, major activities and ultimately, projects and tasks, evaluations will be performed at several levels in a continuous effort to maintain an integrated overall program.

As a first step in program evaluation, cost-benefit analysis has been performed by the Bureau of Mines for a number of subprograms and activities. Moreover, several current efficiency evaluations on information systems requirements and contract procurement should have a direct impact on the FY 1978 program. The results of the evaluations are intended for the future planning of programs. The objective is to determine the degree to which programs are contributing to alleviating mineral problems and achieving objectives so that informed decision--making can be exercised regarding program priorities and directions.

Budget Request--FY 1978

The Fiscal Year 1978 budget request for Mines and Minerals totals $160,529,000, a decrease of $5,968,000 below the $166,497,000 anticipated to be available for FY 1977. The estimate is distributed by activity as follows (in thousands of dollars):

	FY 1977 Amount Available	FY 1978 Budget Request	Net Change
Metallurgy Research	$ 26,535	$ 25,579	-$ 956
Mining Research	107,881	105,405	-2,476
Mined Land Demonstrations	10,109	4,138	-5,971
Data Collection and Analysis	16,121	17,174	+1,053
Mineral Land Assessments	4,306	5,403	+1,097
Program Administration	1,545	2,830	+1,285
TOTALS	$166,497	$160,529	-$5,968

Metallurgy Research--$25,579,000

A decrease of $956,000 is budgeted for Metallurgy Research. Additional funds of $2,613,000 are for expanding research programs on Advancing Minerals Technology with emphasis on reducing dependence on critical mineral imports and developing processes for treating low-grade domestic ores. An additional $51,000 is budgeted for GSA space costs increases. These increases are more than offset by reductions of $2,800,000 which in FY 1977 had funded the relocation of the College Park Metallurgy Research Center and $820,000 from continuation of research on toxic materials as integral parts of other ongoing programs.

Mining Research--$105,405,000

The requested budget for Mining Research represents a decrease of $2,476,000. The effort in Coal Preparation research would increase by $2,900,000 to permit the operation and demonstration of promising new technologies for removal of sulfur from coal and for dewatering and utilizing fine coal wastes. An increase of $80,000 would be devoted to increased GSA space costs. These increases are more than offset by reductions of $179,000 in Coal Mine Health and Safety Research (the resulting budget of $30 million is the total legislative authorization), $2,835,000 for research in Advancing Coal Mining Technology, and $2,442,000 in Advancing Oil Shale Mining Technology.

Mined Land Demonstrations--$4,138,000

A reduction of $5,971,000 is budgeted for Mined Land Demonstrations. Mined Land Investigations and Demonstrations - Anthracite Area is decreased by $1,971,000 reflecting a reduction in contractual obligations. The decrease of $3,000,000 for the Anthracite Conversion Demonstration Plant Results from the non-recurring cost for pilot plant construction. The Mined Land Investigations and Demonstrations - Bituminous Area decrease of $1,000,000 results from the discontinuation of this project.

Data Collection and Analysis--$17,174,000

An increase of $1,053,000 is requested. The State Liaison Program is continued at the current level. An increase of $668,000 is budgeted to improve the capacity and capability of Information Collection and Dissemination systems. The increase of $300,000 in Policy and Economic Assessments would permit more detailed supply/demand analyses of ocean mineral commodities. Increased GSA space costs account for $85,000 of the total increase.

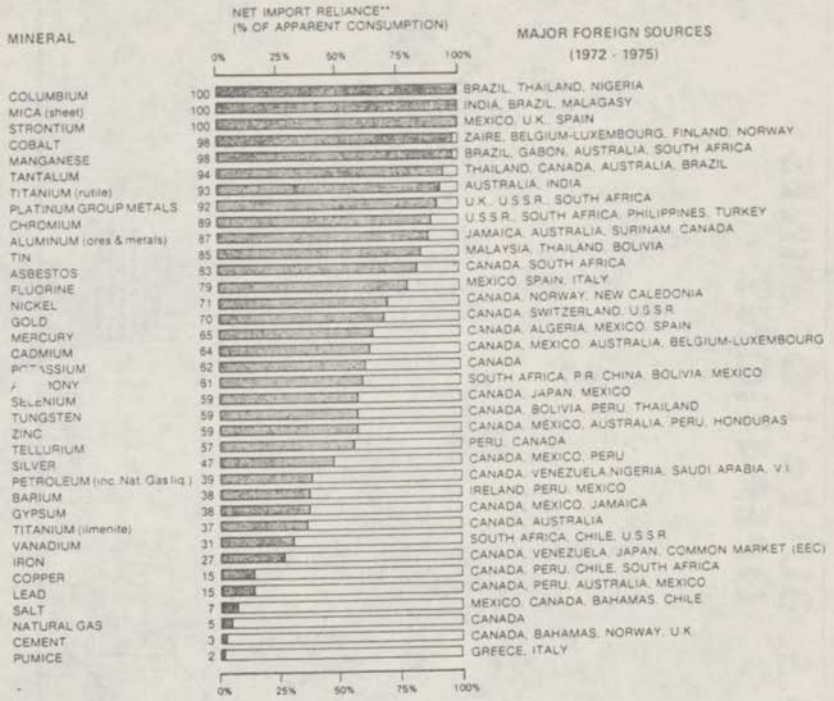
Mineral Land Assessments--$5,403,000

An increase of $1,097,000 is proposed for Wilderness and Public Land Assessments to enhance the development of mineral related information in land decisions. Engineering and Environmental Investigations will continue at the current level.

Program Administration--$2,830,000

The requested increase of $1,285,000 is for correcting occupational safety and health deficiencies in the Bureau's laboratories and for an increased payment to the Department of Labor for employee compensation costs. The balance of the budget request for Program Administration plus other funds received from program funds appropriated directly or transferred from other agencies will provide for the executive direction of the Bureau.

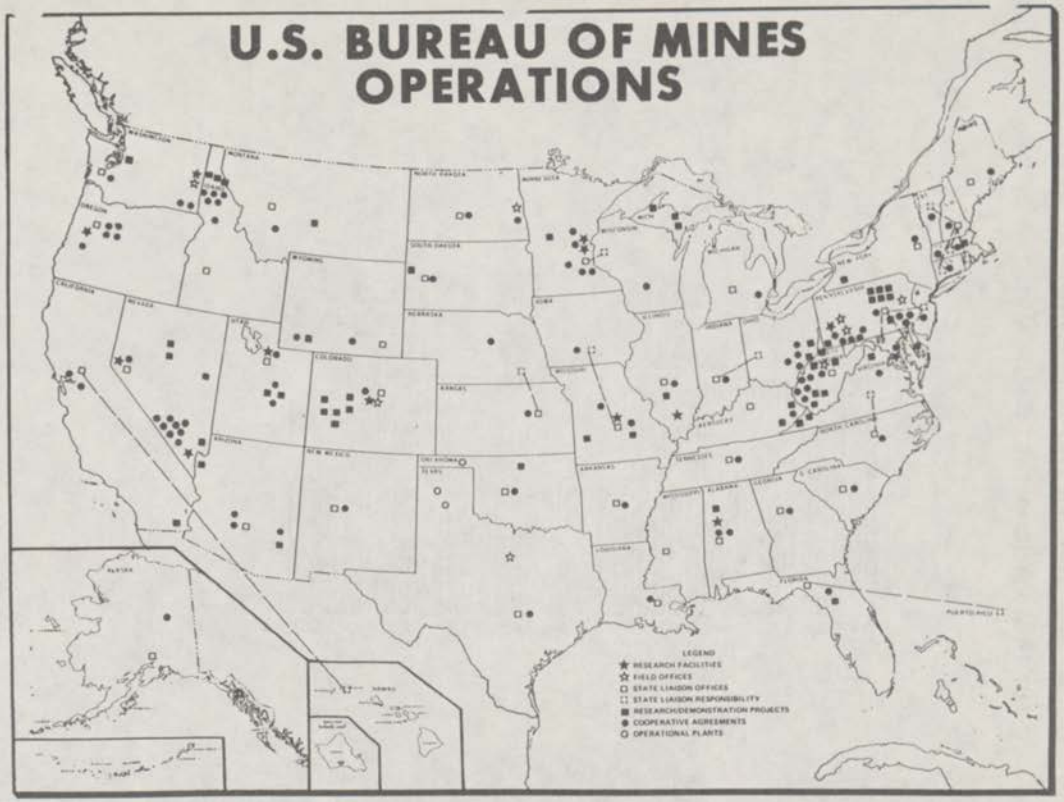
IMPORTS SUPPLIED SIGNIFICANT PERCENTAGE OF MINERALS AND METALS CONSUMPTION* IN 1976



*APPARENT CONSUMPTION = U.S. PRIMARY ± SECONDARY PRODUCTION + IMPORT RELIANCE

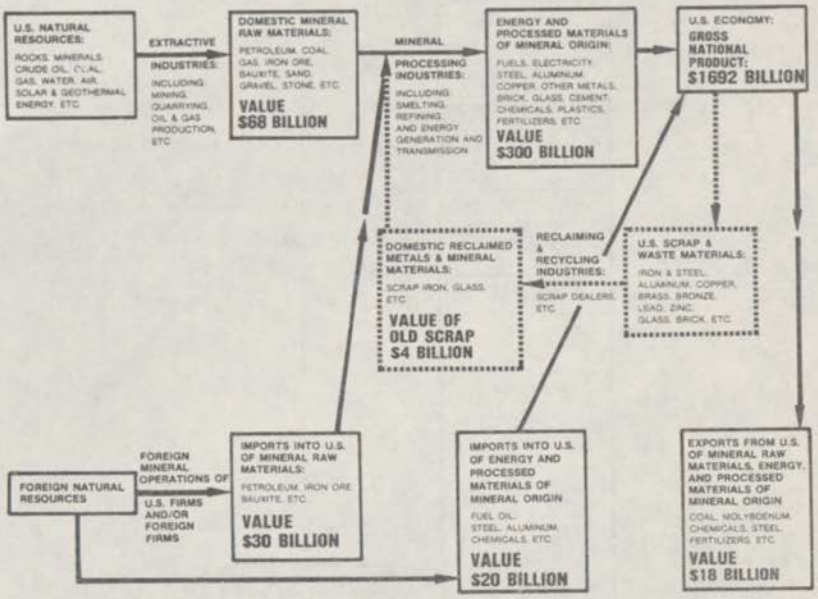
**NET IMPORT RELIANCE = IMPORTS-EXPORTS ±ADJUSTMENTS FOR GOVT AND INDUSTRY STOCK CHANGES EXCEPT FOR PETROLEUM AND NATURAL GAS (+ WITHDRAWALS, - ADDITIONS)

BUREAU OF MINES, U.S. DEPARTMENT OF THE INTERIOR (import-export data from Bureau of the Census)


U.S. BUREAU OF MINES
OPERATIONS
LEGEND
RESEARCH FACILITIES
FIELD OFFICES
STATE LIAISON OFFICES
STATE LIAISON RESPONSIBILITY
RESEARCH/DEMONSTRATION PROJECTS
COOPERATIVE AGREEMENTS
OPERATIONAL PLANTS

THE ROLE OF MINERALS IN THE U.S. ECONOMY

(ESTIMATED VALUES FOR 1976)



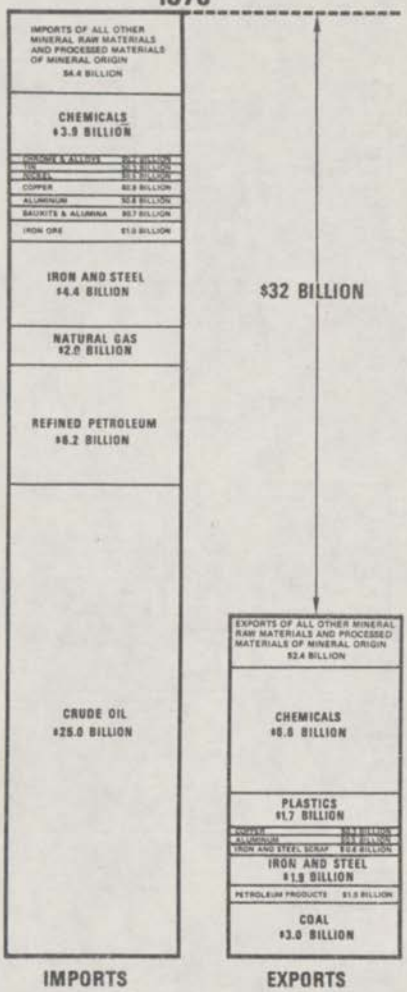
ECONOMIC ACTIVITY[1]	1971	1972	1973	1974	1975	1976
DOMESTIC MINERALS						
RAW MATERIALS	31	32	37	55	63	68
RECLAIMED MATERIALS	2	2	4	4	3	4
IMPORTED MINERALS						
RAW MATERIALS	4	4	7	20	21	30
ENERGY AND PROCESSED MATERIALS	6	10	12	22	19	20
DOMESTIC ENERGY & PROCESSED MATERIAL OF MINERAL ORIGIN	145	170	200	255	295	300
U.S. GROSS NATIONAL PRODUCT	1063	1171	1306	1415	1516	1692
EXPORTS OF MINERAL RAW MATERIAL, ENERGY AND PROCESSED MATERIALS	7	8	11	18	18	18

[1] ESTIMATED IN BILLIONS OF DOLLARS

BUREAU OF MINES, U.S. DEPARTMENT OF THE INTERIOR (based in part on U.S. Department of Commerce data)

U.S. IMPORTS AND EXPORTS OF RAW AND PROCESSED MINERALS

1976*



*1976 ESTIMATE BY BUREAU OF MINES BASED ON JANUARY THROUGH NOVEMBER DATA

BUREAU OF MINES, U.S. DEPARTMENT OF THE INTERIOR (data from Bureau of the Census)

BUREAU OF MINES

Budget Authority (in thousands of dollars)

Account & Functional Code		1976 Estimate	1977 Estimate	1978 Estimate
Federal Funds				
General & Special Funds:				
Mines and Minerals	300	158,818	166,497	160,529
Supplementals			5,178 a/	
Public Enterprise Funds				
Helium Fund (Contract authority) (permanent)	306	--	47,500	47,500
Proposed for rescission			-47,500	
Total Federal Funds, BOM		158,818	171,675	208,029
Trust Funds				
Bureau of Mines Contributed Funds (permanent, indefinite)	306	657	600	800
Total Federal & Trust Funds, BOM		159,475	172,275	208,829

a/ Supplemental now requested, additional authorizing legislation required.

BUREAU OF MINES

Mines and Minerals

Appropriation, 1976	$157,387,000	
Pay Act supplemental	1,431,000	
Total available, 1976		$158,818,000
Appropriation, 1977	164,465,000	
Pay cost supplemental	2,032,000	
Total available, 1977		166,497,000

SUMMARY OF INCREASES AND DECREASES, 1978

	Base for 1978	Decrease 1978	
Metallurgy research			
Advancing minerals technology	$13,311,000		
Research on recovery of critical minerals		+3,113,000	
Decrease for alumina pilot plant studies		-500,000	
Effecting pollution abatement	3,895,000		
Continuation of research on toxic materials as integral parts of other ongoing programs		-820,000	
College Park Metallurgy Research Center replacement transaction completed	2,800,000	-2,800,000	
GSA space costs increase		+51,000	-956,000
Mining research			
Coal mine health and safety research	30,179,000	-179,000	
Advancing coal mining technology	57,836,000	-2,835,000	
Coal preparation	2,120,000	+2,900,000	
Advancing oil shale mining technology	5,663,000	-2,442,000	
GSA space costs increase		+80,000	-2,476,000
Mined land demonstrations			
Mined land investigations and demonstrations - anthracite area	5,861,000	-1,971,000	
Non-recurring cost Anthracite conversion demonstration plant	3,000,000	-3,000,000	
Mined land investigations and demonstrations - bituminous area	1,000,000	-1,000,000	-5,971,000
Data collection and analysis			
Information collection and dissemination	10,661,000		
Accelerate work on 18 critical minerals		+768,000	
Discontinue the development of an energy model		-100,000	
Policy and economic assessments	3,051,000		
To conduct ocean mining studies		+300,000	
GSA space costs increase		+85,000	+1,053,000
Mineral land assessments			
Wilderness and public land assessments. Land use decisions	2,463,000	+1,097,000	+1,097,000

BUREAU OF MINES

Mines and Minerals--Continued

	Base for 1978	Decrease 1978	
Program administration			
Initiate employee workplace health and safety program		+1,000,000	
Reimbursement to employee compensation fund	69,000	+285,000	+1,285,000
Total, net decrease, 1978			-5,968,000
Budget Estimate, 1978			160,529,000

BUREAU OF MINES

MINES AND MINERALS

Analysis by Activities

Activity	Fiscal Year 1976 Amount Available	Fiscal Year 1977 Total Appropriation	Fiscal Year 1977 Pay Cost Supplemental	Fiscal Year 1977 Amount Available
1. Metallurgy research	$ 25,070,553	$ 25,749,000 2/	$ 786,000	$ 26,535,000
2. Mining research	98,553,439	107,366,000 3/	515,000	107,881,000
3. Mined land demonstrations	7,029,208	10,070,000	39,000	10,109,000
4. Data collection and analysis	15,320,992	15,606,000	515,000	16,121,000
5. Mineral land assessments	4,581,225	4,191,000	115,000	4,306,000
6. Program administration	1,394,912	1,483,000	62,000	1,545,000
Unobligated balance, start of period	-8,596,675			
Unobligated balance, carried forward to TQ	15,464,346 1/			
Total	$158,818,000	$164,465,000	$2,032,000	$166,497,000

1/ Unobligated balances carried forward to TQ are: Metallurgy research, $3,918,210; Mining research, $10,949,473; Mined land demonstrations, $520,792; Data collection and analysis, $53,008; Mineral land assessments, $15,775; and Program administration, $7,088.

2/ Does not include $3,114,507 of unobligated balance, start of year.

3/ Does not include $1,071,429 of unobligated balance, start of year.

BUREAU OF MINES

MINES AND MINERALS

Analysis by Activities

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
1. Metallurgy research	$ 25,070,553	$ 26,535,000 2/	$ 25,579,000	$ -956,000	21
2. Mining research	98,553,439	107,881,000 3/	105,405,000	-2,476,000	50
3. Mined land demonstrations	7,029,208	10,109,000	4,138,000	-5,971,000	106
4. Data collection and analysis	15,320,992	16,121,000	17,174,000	+1,053,000	114
5. Mineral land assessments	4,581,225	4,306,000	5,403,000	+1,097,000	134
6. Program administration	1,394,912	1,545,000	2,830,000	+1,285,000	142
Unobligated balance, start of period	-8,596,675				
Unobligated balance, carried forward to TQ	15,464,346 1/				
Total	$158,818,000	$166,497,000	$160,529,000	$-5,968,000	

1/ Unobligated balances carried forward to TQ are: Metallurgy research, $3,918,210; Mining research, $10,949,473; Mined land demonstrations, $520,792; Data collection and analysis, $53,008; Mineral land assessments, $15,775; and Program administration, $7,088.

2/ Does not include $3,114,507 of unobligated balance, start of year.

3/ Does not include $1,071,429 of unobligated balance, start of year.

BUREAU OF MINES
Mines and Minerals
Analysis of Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Auth. Perm. Pos.	1978 Estimate	Auth. Perm. Pos.	Increase or Decrease (-) 1978 Compared with 1977 Dollars	Positions
1. Metallurgy Research							
A. Advancing minerals technology	$ 12,252,570	$ 13,311,000 7/	482	$ 15,924,000	500	$2,613,000	+18
B. Effecting pollution abatement	7,256,089	3,895,000 8/	131	3,075,000	102	-820,000	-29
C. Secondary resource recovery	2,093,380	2,561,000	95	2,561,000	95	--	--
D. Minimizing mineral and metal needs	3,468,514	3,968,000 9/	132	3,968,000	132	--	--
E. College Park Laboratory replacement	--	2,800,000	--	--	--	-2,800,000	--
F. GSA space costs increase	--	--		51,000	--	51,000	--
Unobligated balance, start of period	-1,966,763						
Unobligated balance, carried forward to TQ.	3,918,210 1/						
Total	27,022,000	26,535,000	840	25,579,000	829	-956,000	-11
2. Mining Research							
A. Coal mine health and safety research	29,157,459	30,179,000	370	30,000,000	380	-179,000	+10
B. Metal and nonmetal health and safety research	5,663,000	5,816,000	77	5,816,000	77	--	--
C. Advancing coal mining technology	50,728,708	57,836,000 10/	343	55,001,000	343	-2,835,000	--
D. Coal preparation	1,100,000	2,120,000	21	5,020,000	21	2,900,000	--
E. Advancing oil shale mining technology	5,972,357	5,663,000 11/	22	3,221,000	22	-2,442,000	--
F. Advancing metal and nonmetal mining technology	5,931,915	6,267,000	131	6,267,000	131	--	--

83-561 O - 77 - 59

BUREAU OF MINES
Mines and Minerals
Analysis of Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Auth. Perm. Pos.	1978 Estimate	Auth. Perm. Pos.	Increase or Decrease (-) 1978 Compared with 1977 Dollars	Positions
2. Mining Research (Cont'd)							
G. GSA space costs increase				80,000		80,000	
Unobligated balance, start of period	-6,629,912						
Unobligated balance, carried forward to TQ.	10,949,473 2/						
Total	102,873,000	107,881,000	964 12/	105,405,000	974	-2,476,000	+10
3. Mined Land Demonstrations							
A. Mined land investigations and demonstrations - anthracite area	5,747,369	5,861,000	38	3,890,000	38	-1,971,000	--
B. Anthracite conversion demonstration plant ..	--	3,000,000	--	--	--	-3,000,000	--
C. Mined land investigations and demonstrations - bituminous area	1,051,808	1,000,000	--	--	--	-1,000,000	--
D. Fire control in coal deposits	230,031	248,000	4	248,000	4	--	--
Unobligated balance, carried forward to TQ.	520,792 3/						
Total	7,550,000	10,109,000	42	4,138,000	42	-5,971,000	--

BUREAU OF MINES
Mines and Minerals
Analysis of Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Auth. Perm. Pos.	1978 Estimate	Auth. Perm. Pos.	Increase or Decrease (-) 1978 Compared with 1977 Dollars	Positions
4. Data Collection and Analysis							
A. Information collection and dissemination	10,171,152	10,661,000	368	11,329,000	374	668,000	+6
B. Policy and economic assessments	2,864,891	3,051,000	97	3,351,000	103	300,000	+6
C. State liaison	2,284,949	2,409,000	85	2,409,000	85	--	--
D. GSA space costs increase				85,000		85,000	
Unobligated balance, carried forward to TQ.	53,008 4/						
Total	15,374,000	16,121,000	550	17,174,000	562	1,053,000	+12
5. Mineral Land Assessments							
A. Wilderness and public land assessments	2,854,121	2,463,000	56	3,560,000	69	1,097,000	+13
B. Engineering and environmental investigations.	1,727,104	1,843,000	67	1,843,000	67	--	--
Unobligated balance, carried forward to TQ.	15,775 5/						
Total	4,597,000	4,306,000	123	5,403,000	136	1,097,000	+13

BUREAU OF MINES
Mines and Minerals
Analysis of Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Auth. Perm Pos.	1978 Estimate	Auth. Perm. Pos.	Increase or Decrease (-) 1978 Compared with 1977 Dollar	Positions
6. Program Administration							
A. General administration ..	1,369,119	1,476,000	66	1,476,000	66	--	--
B. Employee workplace health and safety	--	--	--	1,000,000	--	1,000,000	--
C. Employee compensation payments	25,793	69,000	--	354,000	--	285,000	--
Unobligated balance, carried forward to TQ..	7,088[5/]						
Total	1,402,000	1,545,000	66	2,830,000	66	1,285,000	--
Total, Mines and Minerals	158,818,000	166,497,000	2,585[12/]	160,529,000	2,609	-5,968,000	+24

1/ Unobligated balances carried forward to TQ are: Advancing minerals technology, $2,779,226 (includes $648,180 for A&E Salt Lake City Laboratory); Effecting pollution abatement, $1,072,878; Secondary resource recovery, $48,620; and Minimizing mineral and metal needs, $17,486.

2/ Unobligated balances carried forward to TQ are: Coal mine health and safety research, $277,040; Advancing coal mining technology, $7,054,795; Advancing oil shale mining technology, $3,515,553; and Advancing metal and nonmetal mining technology, $102,085.

3/ Unobligated balances carried forward to TQ are: Mined land investigations and demonstrations - anthracite area, $60,631; Mined Land investigations and demonstrations - bituminous area, $448,192; and Fire control in coal deposits, $11,969.

4/ Unobligated balances carried forward to TQ are: Information collection and dissemination, $38,848; Policy and economic assessments, $11,109; and State liaison, $3,051.

5/ Unobligated balances carried forward to TQ are: Wilderness and public land assessments, $10,879; and Engineering and environmental investigations, $4,896.

6/ Unobligated balances carried forward to TQ are: General administration, $6,881; and Employee compensation payments, $207

7/ Does not include $881,060 of unobligated balance start of year: $647,897 for planning and design of the Salt Lake City Laboratory; and $233,163 for uranium ore processing.

8/ Does not include $2,134,715 of unobligated balance, start of year for desulfurization of stack gas.

9/ Does not include $98,732 of unobligated balance, start of year for geothermal studies.
10/ Does not include $1,029,824 of unobligated balance, start of year.
11/ Does not include $41,605 of unobligated balance, start of year.
12/ Includes 50 positions, exempt from ceiling, for Carbondale Mining Research Center.

1. Metallurgy Research: Fiscal Year 1977, $26,535,000; Fiscal Year 1978, $25,579,000, decrease of $956,000. The decrease consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) $+2,613,000	+18	$15,924,000	500	Advancing Minerals Technology - research on recovery of critical minerals chromium, nickel/cobalt, and platinum from domestic resources; decrease for alumina pilot plant environmental impact studies.
(B) - 820,000	-29	3,075,000	102	Effecting Pollution Abatement - continue as integral parts of other ongoing programs identification of mineral process stream constituents.
(C) --	--	2,561,000	95	Secondary Resource Recovery - No Change.
(D) --	--	3,968,000	132	Minimizing Mineral and Metal Needs - No Change.
(E) -2,800,000	--	--	--	College Park Metallurgy Research Center - replacement transaction complete.
(F) + 51,000	--	51,000	--	GSA space costs.
$- 956,000	-11	$25,579,000	829	

Program Description

The United States has moved from a position of relative self-sufficiency in meeting its mineral requirements to one of high dependence on foreign sources of supply for many mineral commodities. As technology has advanced and demand for minerals has grown, many commodities in short supply domestically have been required in increased quantities, and existing high grade domestic reserves have been depleted. At a time when the mineral needs of the United States are expected to more than double within the next 25 years, the mineral needs of the rest of the world also are expanding so that the United States faces increasing competition for the world's finite mineral supply. Past metallurgical processing practice has paid attention only to the recovery of ore constituents having immediate economic value to the processor. Understanding and control of other constituents has been ignored. As a result of a multitude of changes in chemical species taking place during the processing of minerals, environmental awareness also has become a factor affecting the minerals industry, with its requirements to reduce discharges of gaseous, liquid and solid wastes, to reduce disturbance of natural areas, and to conserve minerals. The recent energy crisis has presented also a requirement to reduce the energy requirements involved in minerals processing operations. These considerations, both domestic and foreign, have made the U.S. vulnerable to interruptions in its mineral supply and susceptible to

an ever increasing dollar drain to meet its mineral needs. In order to provide the technological insurance for a continued, viable mineral-based economy, the Bureau of Mines Metallurgy Research activity is structured to address the following goals:

- Develop practical and economical methods for recovering minerals and metals from low grade ore bodies, and for converting resources to reserves.
- Develop innovative methods for recovering minerals and metals that maximize efficiency and recovery rates.
- Develop new or improved methods of mineral processing that minimize pollution discharges in offgas streams, liquid effluents and solid waste.
- Develop methods for increased recovery and utilization of valuable constituents in scrap, domestic, and industrial wastes.
- Develop methods for wider use of abundant materials as substitutes for scarce materials.
- Develop improved materials and metals that minimize deterioration and are suitable for use at high temperatures, in corrosive environments, or under other adverse conditions encountered in chemical and metallurgical applications.
- Develop metallurgical processes that conserve energy or use low cost abundant domestic energy sources.

The Metallurgy Research activity is divided into four subactivities: Advancing Minerals Technology, Effecting Pollution Abatement, Secondary Resource Recovery, and Minimizing Mineral and Metal Needs. Federal efforts in these areas are required to provide needed technology to meet the goals listed above. While private firms in the minerals industry conduct research and development projects, these projects tend to be short-range incremental improvements intended to enhance the profitability of current operations. The Bureau, however, conducts longer range, more fundamental efforts leading to developments which improve the Nation's posture in minerals and contribute significantly to the advancement of metallurgical process technology as part of its responsibility in the complex metallurgical system. The need for Federal involvement to insure an adequate mineral supply includes considerations of technical adequacies, short- and long-term supplies and strategies, and economic, environmental and social factors addressed from a national perspective. Because national perspectives including national security considerations, may not provide adequate market incentives, the Federal government needs to conduct research and development to insure attainment of mineral-related objectives by reducing constraints and providing the incentives.

A. Advancing Minerals Technology

Fiscal Year 1977, $13,311,000; Fiscal Year 1978, $15,924,000; increase of $2,613,000.

Major Program Changes

(1) Critical Minerals	+$3,113,000; total $4,678,000 +18 positions; total 64 positions

Proposal. Increase would expand and accelerate research, development, and demonstration of technology for the extraction and processing of four critical minerals--chromium, platinum, nickel, and cobalt.

-Chromium, $500,000. Operate a miniplant to demonstrate extraction technology for recovering chromium from domestic laterite residues.

-Platinum, $600,000. Beneficiation methods will be developed for recovering platinum from western deposits. Extraction techniques for recovering platinum from Stillwater (Montana) deposits will be improved.

-Nickel and Cobalt, $2,013,000. A new pilot plant will demonstrate innovative technology for recovering nickel and associated cobalt from western laterites.

Justification. The United States has no chromium reserves, but it does have millions of tons of widespread resources, including recently identified surface deposits of chromium-bearing laterites. Conversion of these resources into reserves could lessen our dependence on foreign supplies of this critical mineral as well as imported materials containing chromium. The production of materials, such as stainless steels, directly from chromite and iron ore also could help reduce the need for imported chromium through the use of domestic chromite.

Only an extremely small fraction of the platinum used by this country is produced domestically from Alaskan placer deposits and as a byproduct of copper refining. Production from this latter source is totally dependent on the quantity of copper produced annually. Efforts to recover and extract platinum metals from all known potential domestic deposits, will be intensified.

The low-grade nickeliferous laterites of southern Oregon and northern California are a major potential domestic source of nickel and cobalt. Demonstration of a process to treat western laterites on a pilot-plant scale will be started. Other potential sources of these critical minerals are widely disseminated throughout the country.

Low-grade resources in Alaska, Minnesota, and Montana, could supply a significant portion of the Nation's needs that presently are imported. A potential reduction in our foreign exchange deficit of $150 million could result from increased production of domestic nickel to 40 percent of consumption. Additional benefits could be realized from an increase in the domestic production of associated cobalt.

Cost Factors. The increase will provide for 18 permanent positions for 10 months, $280,500; other than permanent positions, $177,600; personnel benefits, $46,700; rent, communications, supplies, and equipment, $1,020,000; and grants and contractual services, $1,588,200.

(2) Alumina Pilot Plant -$500,000; total $0
0 positions; total 0 positions

Proposal. Miniplants have already been funded in previous years to demonstrate the raw material/process technology for recovering alumina from domestic nonbauxitic resources. Several technologies will be available for evaluation and comparison by early FY 1978.

Justification. The environmental impact studies for which $500,000 was budgeted in FY 1977 were a one-time action, and no additional funds are needed for this purpose.

Cost Factors. The decrease of $500,000 is for contractual services.

Subactivity Description

Long-Term Goals

- Develop economic methods to recover minerals and metals from domestic ores of progressively lower grade, and to convert resources to reserves.
- Devise wider uses for more abundant domestic minerals as substitutes for scarce commodities.
- Improve processing efficiencies in current operations.
- Develop metallurgical processes that use less energy or use low-cost sources of energy.
- Based on knowledge and expertise in the total metallurgical system, respond to identified minerals problems requiring Federal action through the conduct of metallurgical research, development, and demonstration.

Fiscal Year 1978 Objectives

- Complete miniplant processing for recovering alumina from domestic alunite resources and construct miniplant for continuously processing dawsonite contained in oil shale.
- Complete construction of a 100 pound-per-hour process development unit for recovering nickel and cobalt from Oregon/California laterites and demonstrate practicability of recovering chromium from domestic laterite residues.
- Increase current density and operating rate of copper electrodeposition cells by a factor of 8 and demonstrate the technique on a commercial scale.
- Demonstrate practicability of direct digestion of Florida phosphate ore that increases recovery and minimizes slimes disposal.

Alternatives and Strategy

Assuring a continuing and adequate supply of basic raw materials to meet the demands of a complex and growing economy is one of the foremost challenges confronting the United States during the last quarter of this century and on into the next. In the past, this Nation has produced sufficient quantities of low-cost mineral raw materials to satisfy its own as well as a large portion of world mineral needs. In part, these raw materials were supplemented by low-cost imports from countries rich in mineral reserves, and as a result, the United States maintained an economic advantage in competition at the world market place with other countries. More recently, however, this advantage has been eroding. Domestic high-grade ores are rapidly being depleted or already have been exhausted. The United States now relies heavily on imports for many essential mineral commodities. Further, if current trends continue, we will rely even more heavily on foreign sources of supply. In some cases, these trends, both economic and political, may not relax for the United States until it can demonstrate viable and economically competitive processes for producing metal and mineral needs from domestic mineral resources and thereby achieve a greater degree of self-sufficiency.

The Bureau of Mines is the Federal agency with the principal responsibility for the conduct of minerals technology research and development in the total domestic metallurgical system. It is uniquely qualified to advance minerals technology through the conduct of a responsive cost effective research and development

program that addresses national problems, a majority of which deal with the supply of critical or key commodities from domestic resources. Solving these problems will result in maximum benefits to the Nation. Its credibility is established and maintained by working at the interface of existing metallurgical practice with emerging new technologies necessary to solve long-range minerals problems. About 75 percent of the work of the Bureau of Mines is directed to the critical minerals with the intention of reducing our dependence on imports for these mineral commodities. Exploitation of low-grade domestic resources offers one solution. Other solutions include improved processing efficiencies in current practices, use of substitute sources, improved use of secondary resources, and better materials for consequent conservation. In addition to the critical minerals, other key commodities receive attention for improving costs, recoveries, and utilization as domestic ore grades decline and environmental constraints increase. In establishing new or improving existing process technology, full attention is given to the disposition of waste streams and tailings. New mineral processing flowsheets account for all emissions, effluents, and solid wastes. Likewise, energy conservation is an additional and paramount factor in guiding research to advance minerals and metals processing technology.

Program of Work

- Abundant Resource Utilization--Utilization of abundant domestic minerals resources as substitutes for scarce raw materials and those that must be imported as well as augmentation of mineral reserves is the focus of this research. Primary concern is not with the adequacy of resources but rather with the development of extraction methods for converting a variety of low-grade or refractory ore resources into economic reserves for a number of critical or essential mineral commodities. Major emphasis will be given to:

  -Aluminum. Clay, anorthosite, alunite, and shale are among the abundant domestic resources being considered as substitutes for imported bauxite. In FY 1978, the alumina miniplant project, in which 9 firms are now participating on a cooperative, cost-sharing basis, will continue with the final work scheduled for processing alunite and dawsonite. In addition, research will continue on recovering alumina from shales produced during the mining of coal.

  -Iron Ore. Large tonnages of low-grade nonmagnetic taconite of largely unproven worth are found on the western part of the Mesabi range of Minnesota. If brought into production, this resource could substantially enhance domestic production and reduce the Nation's dependency on foreign imports. The existing metallurgy iron ore program will continue in 1978, refining the development and demonstration of technology for processing these low-grade iron ores. Comparison will be made on the same scale of pilot plant operation between the three processing technologies that appear most applicable to this major resource. The technologies to be compared, on both economic and technical bases, are: (1) selective flocculation/cationic flotation--applying variations in technology developed by the Bureau and currently applied at the Tilden, Michigan plant, (2) reduction roasting/ magnetic separation/cationic flotation, and (3) high-intensity magnetic separation, both as a primary and as a supplementary process. The present small effort on the utilization of titaniferous iron ores of the West, including Alaska, will be continued in FY 1978. Prereduction of the iron to metal without the normal blast furnace smelting step holds promise as a means to avoid the deleterious effect of titanium. Development of potential beneficiation and processing techniques to recover both pig iron and byproduct titanium in a useable form will be pursued. Other processing research investigations will focus on improved technology for converting low-grade iron resources of Alabama and Arizona into economic reserves.

Expansion of production plant in upper Michigan incorporating Bureau-developed selective process for upgrading non-magnetic taconite.

- Innovative Processing--The capability to develop and treat low-grade and complex mineral resources competitively often reflects the need for new and innovative processing technology. This is particularly true for some of the critical minerals--chromium, nickel, cobalt, and platinum--which are too low in grade for conventional processing schemes. Extending the resource base for uranium will necessitate the development of new and innovative technology for processing very low-grade uraniferous deposits.

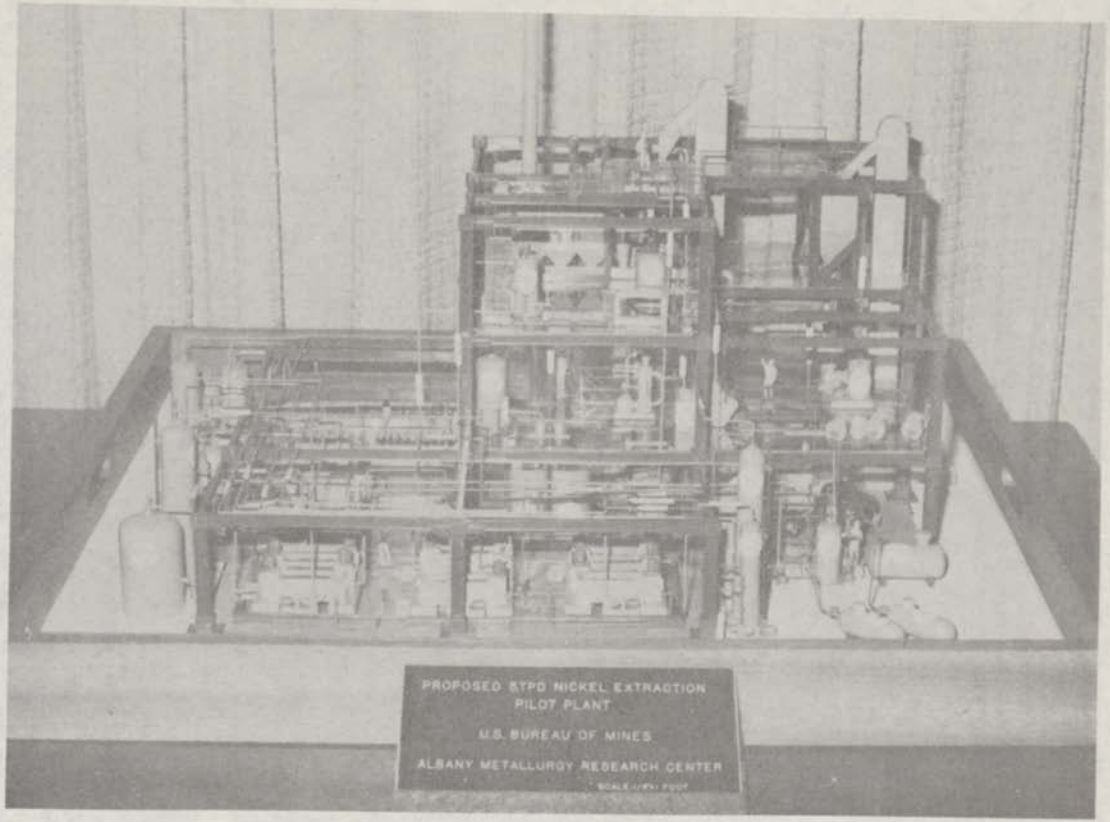
  Major elements of this part of the program include:

  - Chromium. Research on recovering chromium from low-grade western resources will be accelerated. Demonstration on a miniplant scale of the extraction technology for extracting chromium from domestic laterite residues, after removal of nickel and cobalt, will be emphasized. Other low-grade domestic chrome deposits will be investigated with the objective of converting them into reserves. New and improved beneficiation techniques for concentrating and recovering chromium from these deposits will be expanded.

  - Platinum. The current research effort for platinum is directed toward the development of innovative methods for recovering platinum metals from low-grade western deposits. Investigations in FY 1978 will focus on a major platinum deposit in Montana's Stillwater Complex. This source is estimated to contain at least 4.6 million ounces of platinum metals and possibly as much as 150 million ounces. This latter amount is equivalent to about 75 years supply. Beneficiation studies now underway will be expanded to include this potential source for these precious metals. Development of improved solvent extraction technology appropriate to the selective concentration of platinum from domestic deposits will be given attention also.

  - Nickel and Cobalt. Domestic nickeliferous lateritic ores are not amenable to physical beneficiation methods and commercial hydrometallurgical practices are generally unacceptable for the efficient and economic recovery of the contained nickel and cobalt. During the past several years, Bureau research has resulted in a process showing significantly greater promise than conventional techniques. A process demonstration unit, begun in FY 1977, will give firm information on process chemistry from which material and energy balances, reaction efficiencies, and major equipment types can be obtained. This information can be used for more accurate cost estimates. The next step in developing the process in FY 1978 requires pilot plant operation to provide the detailed engineering and process optimization that is necessary before full-size plants can be designed and built. Other research extended to recovering nickel and copper from the complex Duluth Gabbro of Minnesota will be continued.

  - Uranium. Improved technology is needed for recovering uranium from low-grade domestic uraniferous resources at acceptable costs. Transfer of technology from the laboratory stage to commercial acceptance requires about 8 years. For this reason, the present uranium program is being accelerated so that recovery of uranium from various low-grade refractory carboniferous, and silicious sources can be tested. Research will include pilot-scale ion exchange and heap leaching studies to improve uranium recovery and to predict the requirements of industrial-scale operations. These studies will be conducted in conjunction with existing uranium milling and processing operations. Percolation and in-place leaching of low-grade Chattanooga shale will be continued. Development of new and improved metallurgical processes, including beneficiation of subeconomic grades, hydrometallurgical and pyrometallurgical techniques, and combined methods will receive continued attention. Research directed toward other



Model of pilot plant incorporating process for extracting nickel, chromium, and cobalt from Western laterites.

domestic low-grade sources of uranium, such as granite, lignites, and shales, will be extended also.

- Lower-Cost Processes--The development of lower-cost metallurgical processing methods for treating a wide variety of mineral and metal raw materials, particularly those of progressively lower grade, is the goal of this effort. Included in this segment of the program is research conducted to effectively reduce processing costs through new and improved concentration practices, extraction and separation methods, and metal winning operations. Major metals treated include copper, steel, and other critical minerals--columbium, vanadium, and manganese. Examples of this work are:

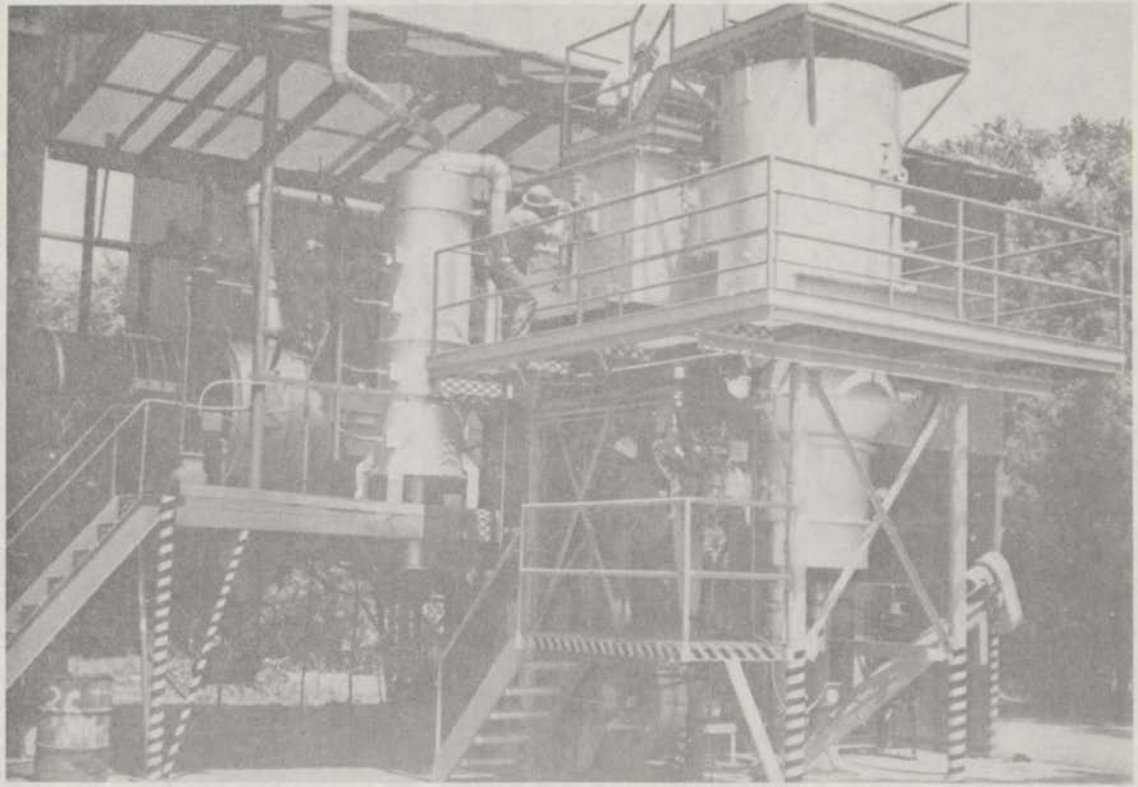
  - Copper. High current density electrodeposition of copper using a Bureau developed multielectrode channel cell offers substantial savings in terms of lower costs, time, and equipment requirements over present industrial practice. Electrorefining of copper at current densities substantially above those used commercially will be demonstrated in FY 1977 at a process development unit. In FY 1978, this technology will be carried forward to copper electrowinning procedures and will be demonstrated in a multielectrode system.

  Although leaching of low-grade copper ores and mine waste accounts for about 10 percent of primary copper production, improvements in the technology will increase efficiency and lower costs. Bureau research has demonstrated on tonnage samples of typical dump material that selectively leaching the coarse fraction improves recovery and permits the recovery of associated metals such as molybdenum. Leaching also provides the opportunity to recover copper from oxide ores that cannot be concentrated economically by known methods. Long-term, large-scale leaching tests will be conducted on representative porphyry copper ores. Large pilot-scale leaching tests on native copper ores also will be continued. A working mathematical model designed to simulate copper leaching from sulfate ores will be refined further to facilitate the use of laboratory data in predicting heap leaching characteristics.

  - Iron and Steelmaking. Projections for the next 25 years are for a greatly expanded demand for primary iron metal. This need faces problems in implementation in that new blast furnace facilities are highly capital intensive. Solutions to these problems, as part of the system, may be found in expanding production through improved technology in existing blast furnaces and by greater reliance on prereduction of iron pellets prior to smelting. Both solutions must place less reliance on natural gas or oil than has been the norm in the recent past. In FY 1978, expanded research will be undertaken to develop technology for the prereduction of pellets using low-grade coals/lignites as fuels and reductants.

- Improved Recovery--Increased efficiency in recovering minerals and metals presently being lost during the processing of ores and concentrates is the concern of this program. One outstanding example is the loss of phosphate during the processing of Florida land pebble matrix. At present, 30 to 40 percent of the phosphate passes through the beneficiation plant and is discarded. This phosphate loss represents more than 12 percent of world demand. Improving the recovery of phosphate during its beneficiation will not only help conserve this valuable resource but also will help alleviate a serious environmental problem associated with inefficient processing.

  - Phosphate. During FY 1977 work will proceed to scale-up a method for the direct digestion of Florida phosphate ore with sulfuric acid with the objective of demonstrating the practicality of this approach in FY 1978. Pilot-scale testing then would continue through FY 1979 to obtain necessary



Experimental cyclone combustor for evaluating low rank fuels for firing iron ore pellets.

engineering and cost information if the method is shown to be practical. The successful demonstration of this work will provide a more efficient process for recovering phosphate without the 30 to 40 percent loss attendant with current practice.

Research will continue on the development of new and improved beneficiation techniques for concentrating and recovering phosphate and valuable by-products, such as fluorine, vanadium and chromium, from complex and low-grade western phosphate rock deposits. These deposits from Idaho, Montana, and Utah, will be fully characterized in order to develop appropriate beneficiation procedures. The direct acidulation of western phosphate concentrates with phosphoric acid was tested in a process development unit. Predigestion of phosphate concentrates followed by high-temperature acidulation enables effective defluorination and the production of triple superphosphate. Efforts to recover vanadium from phosphate beneficiation slimes will continue.

Benefits

The major benefits expected to result from the execution of the subactivity program elements include:

- Research on nonmagnetic taconites would convert about 10 billion tons of these iron ore resources in the Lake Superior region to reserves, thereby benefiting the entire Nation.
- Development of technology for recovering chromium from domestic laterites would add an estimated 3 million tons to the Nation's reserves.
- Development of technology for recovering nickel and associated cobalt from western laterites would add approximately one million tons of nickel and 100 thousand tons of cobalt to our reserves.
- The Nation's uranium reserves could be substantially increased by the addition of lower grade deposits through improved uranium extraction technology.
- Technology for recovering platinum from very low-grade resources could make available an estimated 2.5 million troy ounces of precious metal.
- Direct acidulation of Florida phosphate ore would increase supplies of phosphate by about 6 to 8 million tons annually.
- Recovery of fluorine now lost in the processing of phosphate ore would make available an equivalent of at least 500 thousand tons of fluorspar every year.

Constraints

Constraints that could seriously impede the successful implementation of research conducted under this subactivity include the following:

- Lack of incentives for domestic minerals development due to foreign minerals availability at prices below the level needed to make new domestic investments economically feasible.
- Existing minerals processing equipment and operations represent a substantial capital investment which is neither functionally nor economically obsolete.
- The inability to develop some mineral resources because of attendant environmental limitations.

Program Effectiveness

Rapid transfer and adoption of new and improved metallurgical technology, developed by the Bureau of Mines, by the minerals processing industries is one measure of this program's effectiveness. Helping maintain this country's economic well-being through greater self-sufficiency and therefore, less dependence on imported minerals; a competitive position relative to other nations; and greater efficiency in the utilization of minerals and materials are other indicators by which the effectiveness might be determined.

In FY 1978, a number of subactivity elements will be critically examined to determine the impact of research and effectiveness in attaining near-term objectives. In so doing, Metallurgy's role and responsibility, the level of effort, scope-of-work, and relative importance as well as the potential benefits to be derived from the pursuit of future research investigations will be identified.

Additionally other areas related to program prosecution and its effectiveness that will require analysis include the following:

- The most effective methods for transferring new metallurgical technology to the private sector.
- Specific factors that delay adoption of newly-emerging technology.
- Sophisticated and reliable methods for forecasting and identifying mineral technology problems.
- The relationship of minerals processing research and development efforts to the total metallurgical system.

B. Effecting Pollution Abatement

Fiscal Year 1977, $3,895,000; Fiscal Year 1978, $3,075,000; decrease of $820,000.

Major Program Changes

(1)	Identification and tracing of Mineral Process Stream Constituents	-$820,000; total $0 -29 positions; total 0 positions

Proposal. Discontinue research related to the study of the flow of mineral pollutants and the management and control of fugitive elements and chemical species in mineral processing systems.

Justification. This program would identify and trace fugitive elements which may cause pollution problems. Funding is not requested for the Bureau of Mines because the Environmental Protection Agency has the lead responsibility for correcting pollution problems. However, funds are requested elsewhere in this budget for R&D to develop technical data and technology for characterizing and recovering minerals within the minerals processing system. These funds are requested under Advancing Minerals Technology, Effecting Pollution Abatement, and Secondary Resource Recovery.

Cost Factors. The decrease involves 29 permanent positions, $378,000; other than permanent positions, $30,000; personnel benefits, $41,000; rent, communication, supplies, and equipment, $171,000; and grants and contractual services, $200,000.

Subactivity Description

Long-Term Goals

- Effectively minimize the undesirable environmental effects that can result from mineral processing operations.
- Improve technology for stabilizing waste from the mineral processing industry thereby leading to a reduction of air and water pollution or other environmental degradation that can result from disposal of waste materials.
- Develop low-cost and efficient processes which can be installed commercially in the early 1980's for scrubbing sulfur dioxide from powerplant and industrial process stack gases.
- Develop technology and procedures for managing, controlling, and reclaiming mineral processing waste waters to meet water quality regulations and to conserve water.
- Devise improved methods for controlling dust, fumes, and fine particulate matter, including aerosols, for use in the minerals processing industry beginning within the next two to four years.

Fiscal Year 1978 Objectives

- Complete construction and begin operation of a demonstration research facility at the St. Joe Minerals Corporation's G.F. Weaton Power Generation Station in Monaca, Pennsylvania, to permit evaluation of the citrate process as a low-cost and effective method of removing sulfur dioxide from powerplant flue gases.
- Develop rapid analytical techniques for determining arsenic, antimony, selenium, and bismuth concentrations in smelter waste products.
- Demonstrate Bureau technology for effectively reducing air and water erosion of mineral waste tailings ponds on a tailings pond of approximately 100 acres.

Alternatives and Strategy

The Federal Government must take the lead in developing technology for controlling environmental problems. Environmental law requires industries to utilize "best available" or "best practicable" technologies to control their waste outputs. It is not reasonable to expect industry to make massive capital outlays to develop new technologies when the research may result in modified environmental regulations. The Nation needs, and the public and the economy demands, both increased mineral production and a cleaner environment. Without Government research, acceptable pollution abatement technology will not be forthcoming at a rate compatible with the need to develop domestic mineral resources. It is therefore in the public interest to develop technological information that can lead to effective pollution control so that the processing of our Nation's mineral needs can be satisfied without degradation of the environment.

Partially effective technology does exist in some problem areas, but vast improvements are needed to lower costs, improve efficiency and reliability, and avoid the creation of new air, land, and water pollution problems. For example, although several scrubbing techniques exist for removing sulfur oxides from stack gases, these techniques are expensive and unreliable, and produce other environmental problems incidental to disposing of end product sludges which cannot be tolerated in many parts of the country. High-sulfur coal could be

83-561 O - 77 - 60

used in the generation of steam by utilities if new sulfur dioxide scrubbing systems could be developed, or methods improved to remove sulfur from the coal prior to combustion. In the processing of sulfide minerals new hydrometallurgical methods can be developed to obviate present pyrometallurgical practices which cause air pollution. But, new technologies will take years to develop and would not be available for large-scale application for many years.

In the past, the minerals industry has often treated its processing water to neutralize gross contamination before discharging it, but regulations governing the discard of such pollutants as cyanide, heavy metals, and organic compounds have been made more restrictive and new and improved technologies are needed to purify the waters if they are to be safely discharged. Modified hydrometallurgical processes may prove adaptable for both clean up of many of these contaminated waters and also may permit recycling to lessen the demand on scarce water supplies. An alternative to this approach is the ponding and evaporation of solutions behind dams, but this often leads to water waste, seepage which can contaminate ground water supplies, or the bursting of the dams.

Much research has been accomplished in stabilization of mineral waste piles and ponds, but the technology is only in its infancy. Through more laboratory research and field testing it is likely that waste stabilization will become a common, desirable practice within the next decade. Active mill tailings are controlled by keeping the pond wet, but more lasting stabilization is required for inactive ponds. Physical, chemical, vegetative, and combination methods are being developed and some small-scale tests are underway. Vegetative procedures are preferred because of the potential for long-term endurance.

Program of Work

Research under this subactivity has both long-term objectives which point out the need for a continuing program in which long-range accomplishments can be achieved and short-term objectives which can be met through program activities which permit quick response to changes in priorities of environmental problems, classification of critical material needs, and the development of new basic concepts that hold promise for solving specific problems. In accordance with these criteria, the following research and development work will be conducted in FY 1978:

- Improved Gas Cleaning Technology--The Bureau has contracted for the design, construction, and operation of a demonstration research facility at St. Joe Minerals Corporation's G.F. Weaton Power Generation Station in Monaca, Pennsylvania, to permit evaluation of the citrate process as a low-cost and effective method of removing sulfur dioxide from powerplant flue gases, producing useful elemental sulfur without the disposal problems associated with throw-away sludges produced by lime and limestone scrubbing processes.

  The Environmental Protection Agency is participating in the test project which will permit treatment of gases from a 50-megawatt electric generating station burning highsulfur coal. The test is scheduled for completion in 1979 and will accomplish:

  --The transfer of technology originally developed for smelters to the electric power industry.

  --A major advance in sulfur dioxide air pollution control for wide application in the minerals processing industry.

  Laboratory research will be conducted for improving gas scrubbing technology through the use of other organic acid systems, such as glycolic acid, which appear to have economic and operating advantages over the citric acid system. Experimentation will be conducted in a continuous miniplant test unit in order to provide the preliminary engineering data needed to evaluate the use of these systems for gas-stream cleaning.

- Process Water Treatment--Laboratory investigations will be conducted on developing methods for recycling and managing mineral processing waste waters. Research will include experiments to dewater slimes and to develop effective methods for purification and recycling process water in phosphate beneficiaton. The most promising techniques will be evaluated in the field under pilot pilot conditions. Hydrometallurgical techniques such as solvent extraction and ion exchange developed in the laboratory will be tested in miniplants for removing very low concentrations of heavy metals from process waters.

- Dust, Fume, and Fine Particulate Control--Research will concentrate on reducing the undesirable environmental problems caused by dusts, fumes, and fine particulate matter generated in the minerals industry. Laboratory and field testing will be continued for stabilizing tailings ponds and waste piles resulting from the processing of minerals. In cooperation with a private organization, a large scale stabilization test will be made on a tailings pond of approximately 100 acres to determine more accurately the effectiveness of Bureau developed techniques for reducing ground water contamination as well as air and water erosion problems associated with long-term storage of mineral processing wastes. Special attention is to be placed on developing the capability of conducting accurate dust measurements of tailings areas before and after stabilization to determine the degree to which the amount of airborne matter can be reduced. Existing mineral waste

piles will be inventoried and the wastes chemically and physically evaluated in order to determine suggested procedures for stabilizing the ponded material. Efforts to remove aerosols from waste gas streams will be continued in order to help reduce corrosion and environmental problems resulting from their presence.

Benefits

- The quantities of pollutants discharged from minerals processing operations will be minimized as improved technology developed in the laboratory is adapted to production operations.
- The Nation's mineral-based materials supply will be increased through the recovery of useful constituents contained in waste.
- The continuing demand for fresh, clean water supplies by minerals processing operations will be reduced as the ability to recycle process waters increases.
- The general public will benefit from an improved environment, decreased need for low-sulfur coals, and increased capability of generating electricity through use of abundant high-sulfur coal reserves.

Constraints

- Industrial organizations are reluctant to accept new technology when extensive capital investment must be incurred unless it leads to significant reduction in the costs of pollution abatement.
- Regulations promulgated at the local, state, or Federal level can be inconsistent and make it difficult for industry to develop pollution control strategies.
- Industrial attitudes toward water conservation and water recycling vary throughout the country depending largely upon the availability of fresh water supplies.
- Responsibility for solving environmental problems associated with abandoned mining and mineral processing operations is not thoroughly defined.

Program Effectiveness

The degree to which technology developed under this program is accepted for practice is one good indication of the effectiveness of the program. Transfer of technology for solving specific environmental problems has taken place. Examples are the removal of selenium from zinc process waters, the stabilization of certain copper tailings piles, a smokeless technique for incinerating junk cars, and the use of the citrate scrubbing process for treating chemical plant emissions. The electrical utility industry will be watching closely the Bureau's process development unit for scrubbing sulfur oxides from powerplant stack gases once construction is complete and operation begins. The willingness of the industry to cost-share a large scale demonstration is indicative of the potential of the citrate process for abating sulfur dioxide air pollution problems.

The above factors will be considered along with others in an evaluation program, the design for which will be undertaken and completed in FY 1978. The actual evaluation program will be conducted during FY 1979 and FY 1980.

C. Secondary Resource Recovery

Fiscal Year 1977, $2,561,000; Fiscal Year 1978, $2,561,000; no change.

Subactivity Description

Long-Term Goals

- Increase the availability of scarce materials by reclaiming and recycling materials now discarded in industrial and domestic wastes.
- Reduce the energy required for mineral processing by reclaiming already processed materials from waste streams.
- Reduce dependence on imported materials by reclaiming materials from waste streams.
- Protect the environment by reducing the volume of wastes requiring disposal, eliminating harmful constituents from waste streams, and reducing the need to extract virgin resources.

Fiscal Year 1978 Objectives

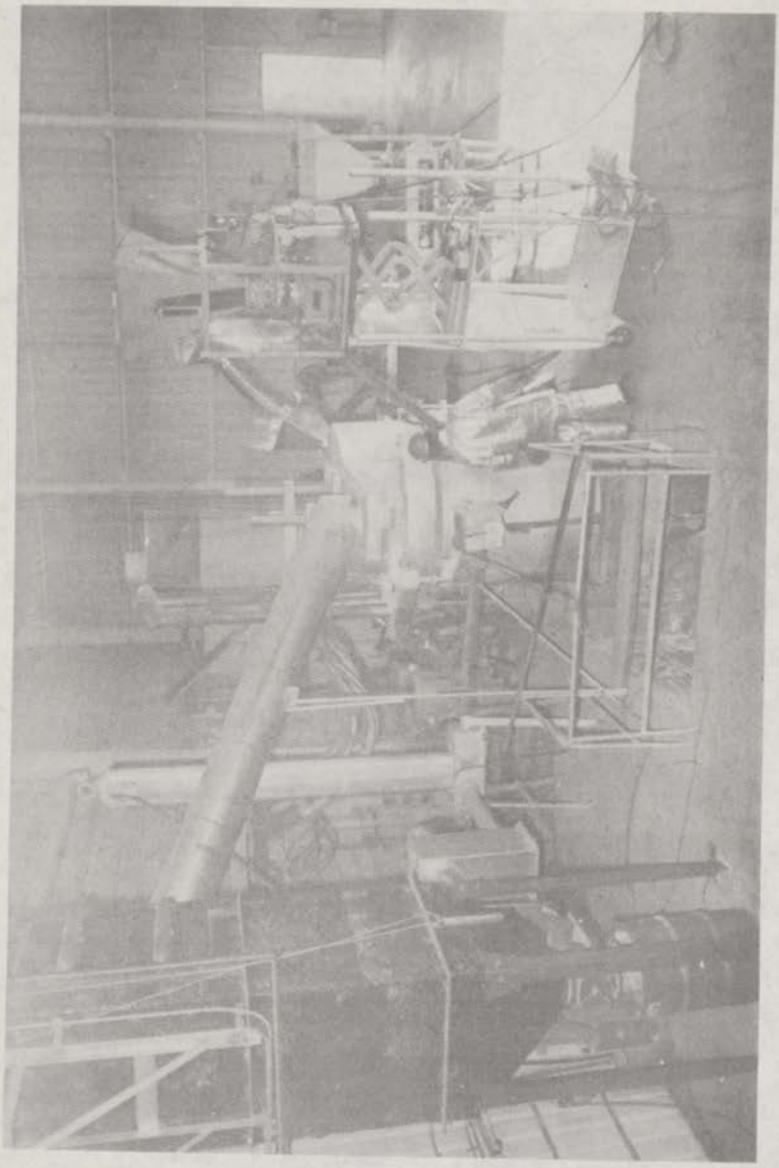
- Demonstrate, on a large scale, technology for recovery of chromium, cobalt, and nickel from stainless steelmaking flue dust.
- Demonstrate technology for separating nonferrous metals and plastics from the non-magnetic fraction of automobile scrap.

Alternatives and Strategy

The Nation has inadequate supplies of many mineral commodities such as chromium, nickel, and cobalt. These shortages often involve a lack of domestic resources or depletion of domestic resources formerly utilized, forcing an increased reliance on imports to meet domestic needs. These shortages can be expected to intensify in the future as foreign sources are depleted or are disrupted by political developments. While other mineral commodities, such as aluminum and magnesium, are in relatively abundant supply, the energy required to process them from virgin to finished states is becoming increasingly costly, and places unnecessary demands on energy sources urgently needed for other purposes. Still other materials represent environmental problems when disposed of by current practices, but also represent valuable commodities if practical, economical means of recovery are available.

At the same time the Nation's municipalities and industrial concerns are finding increasing difficulties in disposing of their wastes in an environmentally acceptable manner. An obvious solution to all of these types of problems is recycling the waste materials to recover energy and mineral values and at the same time reduce the environmental problems involved in disposing of the unreclaimable residue. Recycling and the recovery of secondary resources from waste has been practiced to some extent for a very long time. However, there are important institutional, economic, and technological problems which are hampering their wider utilization.

Bureau expertise is directly applicable to the solution of many of the technological problems, thereby directly affecting the economic problems by reducing the cost of recycled materials, and indirectly overcoming some of the institutional problems.



One ton electric arc furnace equipped with continuous feeder device to demonstrate on semi-commercial scale the recovery of iron from waste copper smelter furnace slags.

The Bureau has therefore adopted the strategy of applying its expertise in mineral processing technology to the problems of recovering material values from wastes, and encouraging the adoption of its technological developments by both private sector firms and government agencies with waste disposal interests. The Bureau's approach is to study and refine existing processes and to develop new processes that are applicable to many types of wastes. For example, minerals beneficiation techniques are being applied to junk cars and urban wastes, and leaching and smelting techniques are being applied to dusts, slags, and other residues.

Program of Work

Research under this subactivity responds to changes in short- and long-term needs as they become apparent. Among the factors affecting the program are new sources of scrap, new potential applications for scrap utilization, and new pollution regulations which may affect waste disposal. In accordance with these considerations, the following work will be conducted:

- Industrial Scrap and Wastes--These materials represent both a serious pollution problem and a substantial source of raw materials. During FY 1978, the Bureau will concentrate its efforts on techniques for recovery of several critical minerals, especially chromium from these sources. Chromium is present in flue dust generated in stainless steelmaking, residues from stainless steel metal working, spent plating solutions, and wastes from other industrial operations. Research into recovery techniques from these sources will be conducted and tests undertaken in full-scale equipment in cooperation with commercial organizations in order to provide a greater understanding of the engineering and cost factors associated with the scale of study. Laboratory pilot plant studies will also be made on technologies to process electronic scrap and discarded automobile batteries. Attention will also be given to methods for combining wastes to separate and recover other valuable materials and render the useless fraction innocuous.

- Automotive Scrap--Investigations will concentrate on the recovery of plastics and nonferrous metals (magnesium, aluminum, copper, and zinc) from shredded junked cars. Air classification, water elutriation, and other density methods will be evaluated for effective recovery of plastic materials from the mixed scrap. Following recovery of the plastics, methods for their reuse will be studied and samples will be supplied to auto companies for evaluation. The nonferrous metals will be separated by alloy type, characterized, and tested for acceptability for recycling. Efforts will continue to identify changes in automobile composition and new scrap recovery which will be required for processing these cars. A small scale process development unit will be constructed in order to obtain a better understanding of the operational and engineering problems associated with full scale separation of nonmagnetic shredded automobile scrap. This unit will also permit a more thorough understanding of costs associated with the adoption of the technology.

- Urban Refuse Processing--The Bureau's 5-ton-per-hour unburned-refuse pilot plant will be operated to determine how engineering changes should be made to meet daily and seasonal changes in the composition of the refuse. Ferrous and nonferrous metals, glass, and organic combustible materials will be recovered as separate products. Operation will be aimed at demonstrating the technology to interested representatives from Federal, state and local governments as well as industrial concerns. In addition, a wide variety of products from the pilot plants will be evaluated by potential users.

As part of the Secondary Resource Recovery subprogram the Bureau is investigating the recovery of zircon, which is worth almost $500 a ton, from used molds. Illustrated is typical waste material collected after superalloy turbine blades are cast. The Zircon is mixed with magnesium oxide as well as leftover metal.

Benefits

- Industrial concerns and government agencies responsible for waste disposal will have available technologies for recovery of valuable materials from their wastes, for internal use or resale to reduce the costs of disposal of the unusable residue, for rendering wastes into more environmentally acceptable forms, and for reducing their bulk.
- The Nation will have available more materials with reduced dependence on imported supplies or scarce virgin sources.
- Consumers of recovered materials will have more assured supplies at reasonable prices.
- The general public will benefit from an improved environment, lower waste disposal and material costs, less demand for energy resources, and increased availability of materials.

Constraints

- Reluctance of private and governmental decisionmakers to make expensive capital investments in innovative technologies without clear internal benefits.
- Lack of assured, long-term markets for some recycled products.
- Costs of some recycled materials may not be competitive with virgin supplies.
- Transportation of recycled materials from where wastes are processed to where recovered values are usable sometimes causes them to be noncompetitive.
- Poor quality of some recycled materials.
- Problems in siting recycling facilities due to restrictive zoning and citizen opposition.

Program Effectiveness

The effectiveness of this program can be measured by the adoption of the developed technologies by governmental and industrial users. Portions of the Bureau's urban refuse process have been adopted by several municipalities and one foreign government. The Bureau's process for recovering chromium and other ferro-alloys from stainless steel processing wastes is being adopted by a major industrial firm on an experimental basis.

During FY 1977, a program evaluation design will be formulated to address several specific program issues:

- Does the activity being undertaken by others alter the Federal role in this program?
- What is the effectiveness of the program in transferring developed technology to potential users?
- What are the implications of wide acceptance and implementation of secondary resource recovery on environment, cost/benefits, employment, and foreign imports?

In FY 1978 the evaluation will be undertaken.

D. Minimizing Mineral and Metal Needs

Fiscal Year 1977, $3,968,000; Fiscal Year 1978, $3,968,000; no change.

Subactivity Description

Long-Term Goals

- Decrease requirements for critical imported alloying elements.
- Develop longer-lasting, higher performance engineering materials.

Fiscal Year 1978 Objectives

- Arrange for service tests whereby optimized compositions of strengthened iron-based alloys are compared with comparable commercial stainless steels and/or high temperature, high-chromium alloys.
- Demonstrate the use of polymers and other corrosion resistant materials in the corrosive processing environments of the alumina miniplant.
- Demonstrate a new, Bureau developed, economical practice for titanium casting for service in corrosive environments.
- Demonstrate use of high strength low alloy steels with surficial corrosion resistant coatings or claddings in either geothermal or simulated marine environments.
- In cooperation with the Nevada Highway Department, the McCarran International Airport, and others, demonstrate the utility of sulfur-bearing asphalt mixtures in pavements and as patching compounds.

Alternatives and Strategy

The undiminishing domestic demand for materials of construction continues to place a serious drain on our supply of minerals and metals. Much of the demand involves replacement materials or commodities obtained largely from foreign sources. Corrosion losses require the replacement of billions of dollars of materials annually. Critical commodities supplied through imports, such as chromium, nickel, and cobalt, are used in high-temperature alloys that have only limited service lives. Development of improved, longer lasting materials is needed; however, industry practice has often been to obtain the improved properties through the use of even greater amounts of critical metals or materials. The Bureau will take the alternative approach of utilizing domestically available commodities or substitute materials to achieve the desired end products, thereby reducing the demand for imported materials. For example, iron-aluminum alloys will be developed to replace those containing 18 percent chromium currently being used for high-temperature service. For applications in which chromium must be used as a corrosion or heat-resistant surface, techniques will be evaluated in which a thin layer is clad to a low-cost substitute. Similarly, the use of non-metallics to replace or augment metallic systems for high-temperature hardware, or the substitution of titanium prepared from domestic titaniferous materials for certain stainless steels represent other means of decreasing our requirements for imported commodities.

The Bureau must take the lead in providing solutions to the potential long-term industrial and defense-related problems through a strategy involving the conduct of short-term mission-oriented research designed to develop and evaluate substitute materials, and to transfer the technology as rapidly as possible to industry.

Program of Work

The use patterns of materials are far from static. Design engineers must constantly cope with demands for higher-performance, lower-cost, and readily available materials. To help assure that the materials needed are available at reasonable cost, research conducted under this subactivity has the major objective of providing on a continuous basis new and improved materials of construction. Flexibility has been designed into the program so that it can respond to immediate and developing material problems, but the program also is structured to address the projected material needs of the future. Examples of the specific work elements are presented in the following subprograms:

- Improved Performance Materials--Longer service life of materials will be achieved by improving the chemical and mechanical properties of alloys, ceramics, and composite materials. Research will be directed to accomplish the following:

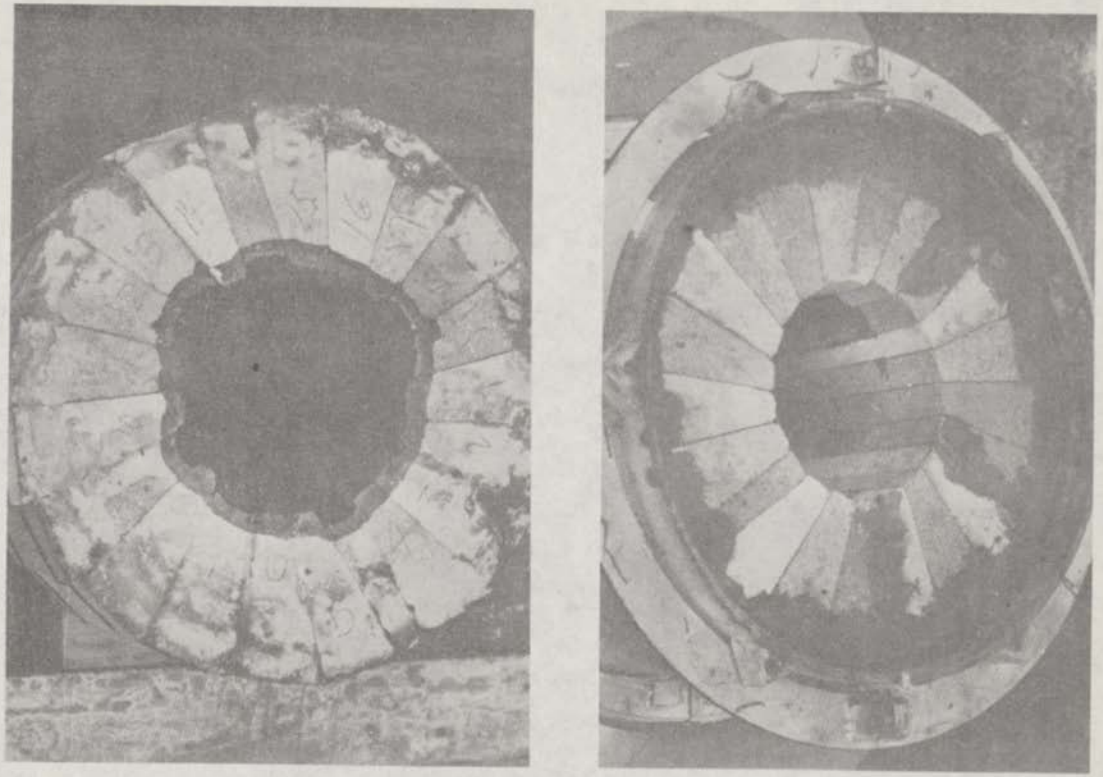
  -- Materials Development. One objective of the research is to make available, at low-cost, low-sulfur steels produced by a newly developed electroslag technology for use in high-pressure vessels used in the chemical industry, nuclear powerplants, and coal gasification processes. Development of a low-cost casting practice for titanium and molybdenum will be advanced and is expected to approach commercial acceptance. Better and more versatile ductile irons, already developed in the laboratory, will be evaluated for performance and service life in simulated commercial applications. In this area of research, major advances are anticipated. The development of improved ceramic materials, extending from superior high-temperature refractory bricks to lower-cost clay products, will be included in the research.

  -- Corrosion. Improvements in the corrosion resistance of alloys used in high-temperature and harsh chemical environments is essential. Research will continue to enhance the oxidation resistance of iron-aluminum alloys, which can be strengthened by minor alloy additions and heat treatment, to provide long-term service at temperatures ranging from 1,000 to 1,700° F. These alloys hold promise for reducing the reliance on chromium and other imported critical materials to achieve oxidation resistance. Investigations will be continued to determine how to combat corrosion, scaling and erosion resulting during the handling of geothermal brines. Magnesium, an abundant and very light metal, corrodes rapidly, restricting its use in many applications. Methods, particularly those of alloying, will be investigated to improve corrosion resistance, thus making magnesium more acceptable as a material of construction. Research will be continued to improve refractories needed to resist both corrosion and erosion in kilns and furnaces that are being converted to burn coal instead of natural gas or oil.

  -- Fabrication. This research will reduce the waste of material in manufacturing mill products or finished parts. Research results will make available better information to assemble metal alloy powders into sintered high-strength and high-temperature service components needed for special applications such as for turbine blades and related engine parts.

- Substitute Materials. The objective of this research is to develop the required information to show that abundant materials can be used instead of critical and scarce materials. The research will be directed as follows:

  -- Evaluation of Substitute Materials. Research will be conducted to establish the potential of promising metals, alloys, or other materials that are capable of replacing those materials imported or otherwise subject to supply disruptions. The evaluation will require testing of alloys and



Rotary slag test for evaluating refractory resistance to slag in kilns and furnaces.
Left-refractories after exposure; right-in retaining drum before exposures.

composites such as molybdenum protectively coated for oxidation resistance to replace chromium and nickel superalloys. Assessment will continue for the substitutions of sulfur for asphalt in highway pavement. Laboratory and field testing has demonstrated this new use for sulfur and its acceptance for commercial application is encouraged by the rising price of petroleum-derived asphalt.

-- Substitute Materials Development. Research will continue to provide substitutes for scarce materials. Rare earth elements are plentiful and have potential for much broader use. Laboratory investigations will be continued for making rare-earth magnets and catalysts as substitute materials in applications presently requiring platinum. Better magnesium alloys will be developed so that magnesium will be available if needed to substitute for aluminum.

Benefits

- Technology transfer could reduce the annual cost of corrosion estimated at $20 billion.
- The coating systems being developed would utilize alloying elements such as chromium and nickel more efficiently by factors of 10 to 1000.
- More effective use of alloying elements would reduce the costs of imports which are now approximating $600 million annually for chromium and nickel.
- Development of new construction materials using abundant resources ultimately would result in lower cost manufactured articles for industry and consumers.

Constraints

- The principal constraint is the lack of economic incentives for industry to commercialize some new developments associated with conservation of imported materials.
- Fabrication trials and capital investment that may be required to accommodate new materials often delay adoption of new materials.
- The general skepticism of users to changes in materials and methods of manufacture may be a deterrent to innovation.

Program Effectiveness

The effectiveness of the program can be measured by the adoption of the developed technologies, alloys, or processes by industry. In some cases developments on the edge of science cannot be forecast with certainty, examples being the study of new strengthening mechanisms for iron-base alloys for elevated temperature service and the ion implantation method for surface alloying.

During FY 1977 a program evaluation concept will be formulated to address several specific issues, e.g.:

- Is industry engaging in allied programs that will alter chances of success?
- Are methods of effecting technology transfer to industry effective or can they be improved?

Accomplishments relative to several specific goals will be evaluated during FY 1978 and methods considered for evaluating longer-range developments dependent on research findings.

E. College Park Metallurgy Research Center Replacement

Fiscal Year 1977, $2,800,000; Fiscal Year 1978, $0; decrease of $2,800,000.

Major Program Changes

(1) Replacement Facility Acquisition	-$2,800,000; total $0 0 positions; total 0 positions

Proposal. Funds are decreased by $2,800,000 which was appropriated in FY 1977 for the purchase and renovation of a replacement facility for the College Park Metallurgy Research Center, College Park, Maryland.

Justification. Purchase of the replacement facility, the De La Salle College, Avondale, Maryland, is a one-time action and no additional funds are necessary for this purpose.

Cost Factors. The decrease of $2,800,000 is $2,000,000 in lands and structures and $800,000 in other contractual services.

F. GSA Space Costs Increase

Increase $51,000. An additional $51,000 is requested to cover a prorata share of increased Standard Level Use Charges.

Examples of Recent Accomplishments

The Bureau's technology for controlling sulfur dioxide emissions from industrial processes continued to progress this year. The planned experimentation in the citrate process pilot plant at Kellogg, Idaho, was completed and the pilot plant was shut down. The Citrate Process for removing sulfur oxides from base metal smelter stack gas was operated for over 5,000 hours on gases generated at the lead sinter plant of the Bunker Hill Company smelter. Removal efficiencies ranging from 95 to 99 percent were obtained. The tests were considered successful since the sulfur oxide content of the cleaned tail gas would meet stringent air pollution regulations for sulfur oxides. Also, the Bureau signed a $12.7 million cost-sharing agreement with St. Joe Minerals Corporation to demonstrate the technology for removing sulfur oxides from flue gas generated from a 50-megawatt boiler at St. Joe's George F. Weaton power plant in Monaca, Pa. The project, which will require approximately 4 years to complete, is partially funded by the Environmental Protection Agency. Successful completion of this effort will indicate that the Citrate Process can be used by utilities to meet sulfur dioxide emission limits at power plants burning high-sulfur coal.

The Bureau's recognized expertise in mineralogy has been marshaled into a new Particulate Mineralogy Unit for the study of microscopic mineral particles. The new unit is attempting to replace misinformation with fact, by employing a solid scientific basis for the identification and characterization of submicroscope particles which may be related to pollution problems. This information is being made available for the process of decision-making by regulatory bodies. The Unit is using a variety of specialized scientific disciplines, that can clearly identify potentially harmful substances, such as asbestos, and distinguish them from thousands of other mineral particles.

In the national interest of establishing an alumina production capability from the vast domestic nonbauxitic aluminous materials, the Bureau has been conducting an intensive cooperative effort with industry participation to provide the most promising technologies applicable to these resources. Miniplant evaluation of acid leaching of alumina from clays is well advanced and a contract study is underway to determine the most feasible of several process alternatives. The program also includes evaluation of the several other nonbauxitic materials such as anorthosite and alunite for potential domestic alternatives to imported bauxite.

Two highly promising techniques have been developed for recovering resources normally lost in refuse. One method is applicable to incinerated refuse and the other to unburned refuse. Both employ techniques and equipment on a pilot-plant scale that have been used in the minerals processing industry to recover metals and minerals from their ores. Incinerator residue is very much like a mineral ore, containing iron, glass, and nonferrous metals, and has sometimes been called urban ore. Technology for the treatment of unburned refuse has been patented by the Bureau of Mines. This process, which yields a combustible fraction as well as metal and glass products, is being developed and refined in a pilot plant having a capacity of 5 tons per hour. The resource recovery system has attracted national and international attention, and adaptations of it have been announced by several municipalities such as Baltimore County, Maryland, Monroe County,

(Rochester), New York, and Montgomery County, Maryland, as well as the governments of France, Spain, and Sweden. The Bureau makes tests on representative samples of refuse from concerned municipalities and offers technical assistance to any parties seriously interested in applying all or part of the system to the solution of their particular solid waste management problems. Similarly, pilot plant tests are conducted on incinerator residues to provide technical data for planning large-scale systems. In this role the Bureau serves an important and needed function of technology transfer. This technology development has stimulated a widespread activity to implement solid waste management through recycling.

Less than 10 percent of the primary nickel consumed each year in the United States comes from domestic resources. To encourage increased production from low-grade resources, a much improved and patented method for recovering nickel and cobalt from domestic western laterite ores has been developed by the Bureau. Evaluation of the miniplant operations to date has tentatively indicated the technical and economic feasibility of the methods, and a contract study is now in progress to recommend the size and site for a suitable process development facility for recovering nickel and cobalt from Oregon/California laterites.

Recovery of tungsten present in Searles Lake (California) brine, a major resource of this critical metal, has ben hindered by the lack of an efficient recovery method. Development of this resource also is in the national interest because Searles Lake is in the public domain and constitutes as much as one-half of the Nation's primary tungsten resources. Toward this goal, a selective ion exchange resin has been developed by the Bureau and proven suitable under simulated operating conditions. Tests have shown that approximately 80 percent of the tungsten can be recovered by use of the resin. Future work will be centered on a larger scale operation to facilitate transfer of the technology to commercial use.

The Bureau of Mines has been investigating the special advantages of cast iron, which requires less energy to melt, is cheaper than steel, and has superior machinability, wear, and corrosion resistance. The results of recent research demonstrate that more advantage could be taken of the properties of cast iron in a variety of applications. This has led to the development of improved ductile cast irons which are satisfactory for use in many machinery parts. Improvements achieved have been so marked that an industry association will evaluate the ability of Bureau-developed ductile iron to be forged. Most cast irons are unsatisfactory for forging.

Thermodynamic information developed by the Bureau constitutes guidelines for the mineral industry for many phases of recovery and process development. During the past year, a compilation of the thermodynamic properties of nickel and its inorganic compounds was published after a review of the world-wide thermodynamic literature. Concurrent with the literature survey, laboratory investigations were conducted to provide updated critical data on systems of current metallurgical interest. The resulting technical bulletin is providing valuable date for guiding metallurgists in plant operation as well as planning of research.

Temporary natural gas curtailment in October for iron ore pellet hardening presages the importance of converting to solid fuels by 1979. Some iron ore companies have already ordered equipment in connection with current expansion projects necessary for utilizing coal. Pathfinding Bureau of Mines research on the use of several ranks of coal for pellet induration has been instrumental in providing creditability for the projected conversion. A contract study has been completed which has favorably assessed the technical and economic feasibility of low Btu gasification of coal as an alternate means of utilizing solid-fuels for pellet hardening.

Millions of pounds of obsolete military electronic hardware are disposed of each year by the Department of Defense as a mixed metal-nonmetal conglomerate for 5 to 10 cents per pound, but which contains metals with an original value of more than 50 cents a pound. The Bureau is investigating methods of upgrading the mixed metal-nonmetal conglomerate in this electronic scrap into rich fractions of copper, ferrous metals and precious metals that could be processed at a refinery for recovery of the precious metals and copper on a toll basis. The Bureau developed miniplant technology consists of shredding the obsolete electronic scrap, followed by a series of mechanical beneficiation steps for separation and recovery of the valuable constituent metals.

Under a cooperative program with the Florida phosphate mining industry, the Bureau is investigating and developing methods for dewatering and stabilizing waste slimes resulting from the processing of phosphate ore. Ever since mining began in Florida about 100 years ago, disposal of the waste slimes has been a problem. The most promising result to date stems from a Bureau-developed flocculating-dewatering technique. By using a polymer of polyethylene oxide as a flocculant in conjunction with a special handling system, a rapid rate of dewatering is achieved. Whereas years are required to thicken the slime by means of the conventional tional impoundment system employed by the mining industry, only minutes are needed with the new scheme.

The chlorine-oxygen leach process for treating off-grade lead-zinc concentrates has shown sufficient promise so that a 500 lb per day miniplant is being constructed to generate engineering data for transfer to commercial practice and for definitive cost evaluation. The hydrometallurgical process, which avoids sulfur dioxide emissions and recovers lead and zinc metal by fused salt electrolysis of their respective chlorides, has drawn widespread industrial interest.

The Bureau of Mines, in cooperation with the Energy Research Development Administration, has made a significant metallurgical contribution to the Nation's coal gasification program. Alloys developed by the Bureau have increased the service life of critical valve inserts from 100 hours to 1000 hours in the hot corrosive environment encountered in coal gasifier systems.

83-561 O - 77 - 61

2. Mining Research: Fiscal Year 1977, $107,881,000; Fiscal Year 1978 $105,405,000; decrease of $2,476,000. The decrease consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)	$ -179,000	+10 1/	$30,000,000	380	Coal Mine Health and Safety Research - Reduction to conform with authorization ceiling. Increased staff for Carbondale Mining Research Center.
(B)	--	--	5,816,000	77	Metal and Nonmetal Health and Safety Research - No change.
(C)	-2,835,00	--	55,001,000	343	Advancing Coal Mining Technology - Reduced effort in all subprograms.
(D)	+2,900,000	--	5,020,000	21	Coal Preparation - Increased desulfurizing and dewatering of fine coals; and pilot plant demonstration.
(E)	-2,442,000	--	3,221,000	22	Advancing Oil Shale Mining Technology - Defer demonstration of underground mining methods.
(F)	--	--	6,267,000	131	Advancing Metal and Nonmetal Mining Technology - No change.
(G)	+80,000	--	80,000	--	GSA Space Costs.
	$-2,476,000	+10 1/	$105,405,000	974	

1/ Ten (10) positions in FY 1978 are in addition to 50 positions provided in FY 1977 for staffing the Carbondale Research Center. Additional staffing beyond the 60 is possible within current personnel ceiling since some employees will move voluntarily and others can be hired at Carbondale as vacancies occur elsewhere.

Program Description

The Bureau of Mines Mining Research activity is focused on the development of improved technology for the extraction of minerals and for the disposal of related waste products at the lowest possible social and material costs, with a minimum of environmental degradation and with maximum protection of worker health and safety. The problems addressed by Mining Research include those of helping to meet technologic needs in light of foreseeable marked increases in demand for coal, metals and minerals, current and future environmental constraints, the outlook for more adverse natural conditions to be overcome in future mining, and related health and safety problems. In response to these problems the following goals have been established:

- To advance mining technology by improvement of present surface and underground mining practices and automation of the most promising present-day systems
- To develop and demonstrate new mining systems that promise substantially improved production, productivity, and safety.

- To develop the necessary technology to reduce safety and health-related hazards in mines to a minimum and to provide adequate protection to the miners.

- To develop and demonstrate solutions for major environmental problems associated with mining and mineral processing.

- To develop and demonstrate improved or new coal beneficiation technology which will permit maximum and efficient utilization of the Nation's vast reserves of coal to meet our energy needs.

The subactivities that support these Mining Research goals are: Coal Mine Health and Safety Research, Metal and Nonmetal Mine Health and Safety Research, Advancing Coal Mining Technology, and Advancing Metal and Nonmetal Mining Technology. Federal efforts in these areas are necessary to provide and implement the technology to meet the goals listed above. The benefits resulting from these actions include an increased availability of the Nation's mineral supply at acceptable social and material costs, increased worker health and safety and environmental protection, and increased national energy self-sufficiency and conservation.

A. Coal Mine Health and Safety Research

Fiscal Year 1977, $30,179,000; Fiscal Year 1978, $30,000,000; decrease of $179,000.

Major Program Changes

(1) Health and Safety Research	-$179,000; total $30,000,000 +10 positions; total 380 positions

Proposal. Decreased funding is required to align the budget request with the statutory authorization. An increase of 10 positions is for health and safety research at the Carbondale Mining Research Center.

Justification. Contract health and safety research will be decreased to reconcile the budget request with the ceiling authorization. Ten additional positions are required at the Carbondale Center for this program to avoid the transfer of positions from other centers. Funds for these new positions will be provided through realignment of contract and in-house programs at all centers.

Cost Factors. The decrease of $179,000 is in contractual services.

Subactivity Description

Long-Term Goals

The overall goal of this subactivity is to develop the necessary technology to reduce safety and health-related hazards in coal mines to a minimum and to afford adequate protection to the miners. Specific goals include:

- To exert a downward influence on the current coal mining death rate of over 100 per year and the injury rate of over 11,000 per year.

- To reduce the potential for increases in the fatality and injury rate as coal production is significantly increased over the next decade.

- To develop, in cooperation with the Advancing Coal Mining Technology Program, solutions to health and safety problems that are introduced by new mining methods or techniques.

- To develop by the late 1980's, inherently safer mining systems wherein unhealthy and hazardous conditions are designed out of the mining system.

- To decrease in the 1980's the increasing trend in miner health compensation that is currently costing the Nation approximately one billion dollars each year in the case of the single health hazard, respirable dust.

Fiscal Year 1978 Objectives

- To develop by the end of 1978 improved solutions to immediate safety problems associated with roof control, fires and explosion control, methane control, industrial-type hazards, post disaster mine rescue and survival, and mine systems engineering design. Several of the key program milestones that will be reached during FY 1978 are noted below:

  -- Completion of the Jenny Mine as an explosion test facility.

  -- Availability of the first production prototype training system.

  -- Completion of evaluation of geologic factors as they relate to methane control in the major eastern coal beds.

  -- Completion and demonstration of the cableless face haulage vehicle.

- To increase technologic assessment during FY 1978 and to provide MESA with technical input to assist them in the formulation of new or improved standards.

- To accelerate in FY 1978 the transfer of technology into the mines by increased allocation of effort to open industry briefings, seminars, exhibits, and demonstrations.

- To expand the data base for better analysis of cost-benefit and cost-effectiveness of mine health and safety programs.

Alternatives and Strategy

The alternatives are to provide Federal assistance to the private sector in developing the technology to reduce the effect of coal mining health and safety problems or to have industry develop the technology unassisted. Federal research and development support is essential to secure the technology needed to make mining a safe occupation. This technology has not and will not be generated by the industry alone. The Federal Government has the required resources and expertise, and the mandate, to promote the health and safety of the miner without requiring an immediate return on investment or productivity gains. Only the Federal Government is in a position to implement a program that is beneficial to all mines and free of parochial considerations.

The Bureau believes that the optimal and most enduring health and safety benefits can best be obtained from research aimed at designing the unhealthful and hazardous conditions out of the coal mine system. The Bureau also recognizes that immediate problems must be solved by remedial measures that can produce sub-optimal solutions. The Bureau's strategy therefore is to conduct a balanced research and development program that is strongly oriented toward the design benefits philosophy, but also provides for solutions to immediate needs. The overriding rationale is that the design philosophy addresses the total problem whereas the urgent, "quick fix" type research often addresses only the symptom.

Subordinate alternatives include emphasis on safety devices that isolate or protect the worker in an unhealthful or hazardous environment; on education and

training; and on safety awareness. These alternatives are not mutually exclusive and the Bureau's conduct of a balanced program recognizes this fact.

In the course of maintaining research and development program balance, constant technologic assessment is made in all mine health and safety problem areas. This insures that input to the process of formulating improved or new standards is made at the earliest possible time and that new technology is transferred to regulatory agencies and to the mining industry in an effective manner. This technology assessment effort is aided by recommendations from the Secretary of the Interior's Coal Mine Safety Research Advisory Committee which is composed of recognized safety experts from labor, industry, government, and universities.

Program of Work

Research, development, demonstration, and transfer of technology will be carried on in all facets of coal mining involving health and safety hazards. Continuing activities in FY 1978 include:

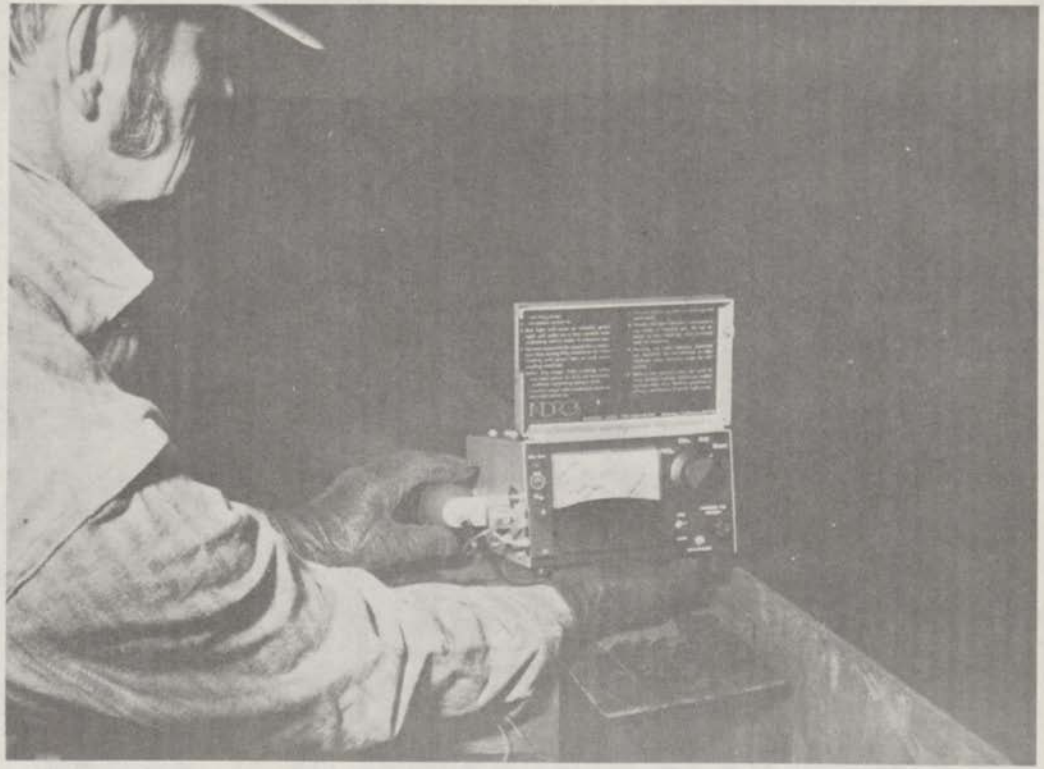
- Respirable Dust--Following passage of the Federal Coal Mine Health and Safety Act of 1969, the coal mining industry reduced respirable dust levels significantly by applying improved ventilation and water spray techniques. Although accomplishments to date are impressive, a continuous effort must be made to improve dust control technology. The new technology must be developed to counter dust problems from existing and anticipated mining systems.

  During FY 1978 efforts will continue to reduce dust generation by optimization of machine coal cutting parameters. Development of improved water sprays and face ventilation systems will also continue with particular emphasis on the application of dust collectors to coal mining machines.

  There is a need for improvements in the present dust measurement system used to establish compliance with coal mine dust standards. The Bureau is cooperating with MESA, NIOSH and the National Bureau of Standards in a program to determine quantitatively the accuracy and reliability of coal mine dust measurements. The Bureau is also developing improved dust measurement instrumentation such as "tamper-proof" filter cassettes for the personal dust sampler and a machine-mounted dust monitor for continuous monitoring of dust levels in coal mines.

- Noise--In order to achieve currently acceptable levels of noise exposure of personnel engaged in coal mining activities, both underground and on the surface, research will continue on noise abatement and instrumentation. Retrofitting is the short-term approach to abatement of noise on various types of equipment; long-range solutions will be obtained by redesign. Instrumentation will be improved as needs arise for more accurate assessments of noise levels. During FY 1978, emphasis will be placed on reduction of underground mining equipment noise including drills, continuous miners, and conveyors, and control of noise in surface mining machinery.

- Industrial Hygiene--Rapid measuring/monitoring of toxic gases from the natural environment as well as from mining equipment requires emphasis on development of measuring instrumentation. This program will continue with the development of instrumentation for detection of CO_2, CO, NO, NO_2 and methane as well as for measurement of air quantity. The objective is to develop low cost, reliable instrumentation capable of quantifying the quality of ventilating air in the mine and to provide instrumentation capable of measuring the miners accumulative exposure. Toxic fumes from explosives will be measured in the laboratory and in mines to establish validity criteria for fume measurement.



Portable instrument for environmental gas monitoring

These programs of instrumentation development, validation, and technique development are designed to provide quantitative, time, evaluation and measurement of conditions in which a miner is working, and will be used by MESA as a basis for the formulation of standards.

- Fires and Explosions--This program will undertake broadly based research into the spread of fires in coal mines to develop optimal means for their prevention, suppression and extinguishment, including improved personnel safety procedures, which will result in a reduction of explosion hazards in coal mines. The research will contribute (a) to the elimination of ignition sources; (b) to early detection of combustion, or of conditions conducive to combustion; (c) to suppression of explosions in methane/coal dust/air mixtures. The results of these investigations will be applicable to the writing or implementation of regulations and to the development of extinguishment hardware.

  The Bureau will continue in FY 1978 to: model coal combustion processes to determine conditions conducive to combustion and to develop means of early detection; develop technology to prevent explosions and for suppression of explosions in mines before they can reach catastrophic proportions; complete development of the Jenny Mine as an explosion research facility and prepare for critical experiments in FY 1979; and, provide technologic input for the drafting of improved or new standards on fire and explosion prevention and control.

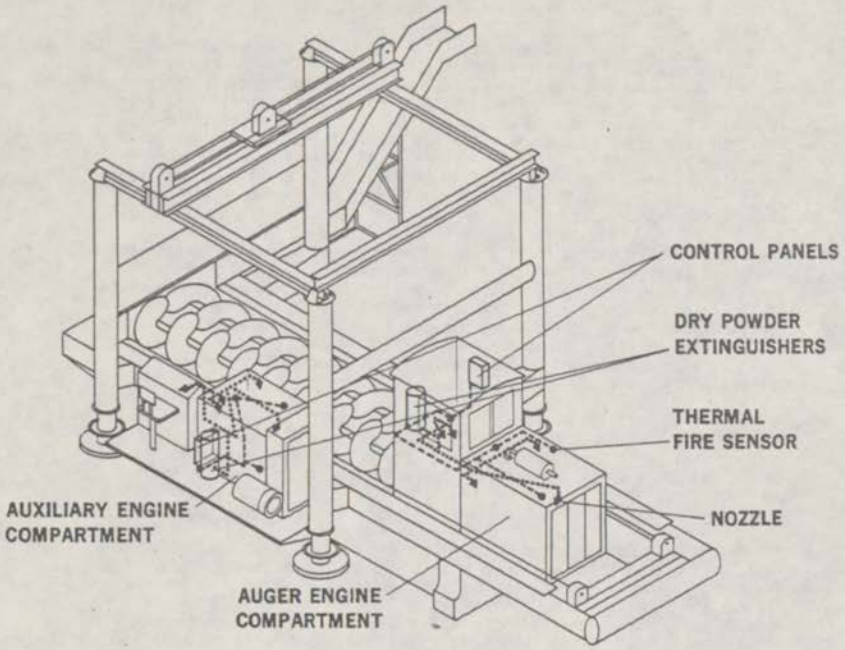
- Methane Control--Methane has always created a hazard in underground coal mines and is becoming more of a problem as deeper coalbeds are exploited. Very often in mechanized working areas, the rate of ventilating air is not sufficient to keep the concentration of methane within allowable limits; periodic stopping or slowing of coal production is required to enable the ventilating air to lower the methane concentration through dilution.

  Studies will be continued on the geology and physical features of coalbeds in order to develop the engineering criteria to predict the quantity of methane in a block of coal, the pressure under which it occurs, and the factors that govern its movement so as to be able to design effective systems for methane control and ventilation. Degasification and control techniques will be further demonstrated in highly permeable coalbeds and will be developed for coalbeds with lower permeability. Research to develop improved ventilation sytems to dilute methane effectively in working areas and control methane emission from gob areas will be continued.

- Ground Control--This program is concerned with the major occupational hazard associated with underground mining failure of ground. The objectives of ground control research are: to identify hazards prior to mining; to develop methods of coping with known hazards and to design systems of roof and rib control which will provide inherently safe operating environments.

  Emphasis will be directed toward several main elements in FY 1978, including continued testing and evaluation of geophysical methods for hazard detection in advance of mining; development of borehole devices to sample physical properties of the ground; and developing baseline property data of all the major coal seams for developing mine design criteria. Guidelines for selection of mining methods and systems to insure the safest working conditions are to be developed. Extensive work in using the full scale roof model system to evaluate roof bolt patterns and bolt elements including resin and grouted bolt response and new bolt type evaluations such as the self drilling and sonic pin will be performed. In-mine field tests of the same system elements will provide input to developing guidelines for roof control plan designs. Parameters affecting roof behavior will be isolated by means of field tests and model simulations to provide for development

AUTOMATIC FIRE PROTECTION SYSTEM FOR COAL AUGERS



of design tools. Evaluation of coal waste disposal areas and methods by means of lab analysis, dynamic testing, and establishment of failure criteria is also planned. Additional research involves establishing risk criteria for the various ground conditions which may be encountered in underground mining.

- Industrial-type Hazards--Coal mining hazards identified as relating to human factors engineering, electrical hazards, equipment hazards, illumination, haulage, communications and materials handling will be investigated. In FY 1978, the human factors area will continue to address the development and optimization of equipment trainers and training systems and will expand the types of equipment trainers to include roof bolters. Electrical research will concentrate on developing information to modify Schedule 2G standards. Innovative machine designs fabricated by this time will be ready for underground evaluation; other equipment safety improvements such as automatic controls, control standardization and improved machine guidance will be evaluated. Upgrading of whole mine communication will continue and emphasis will be placed on roving miner communication, especially in low coal seam mines. Guidelines for safer track and conveyor belt installation and operation will be developed.

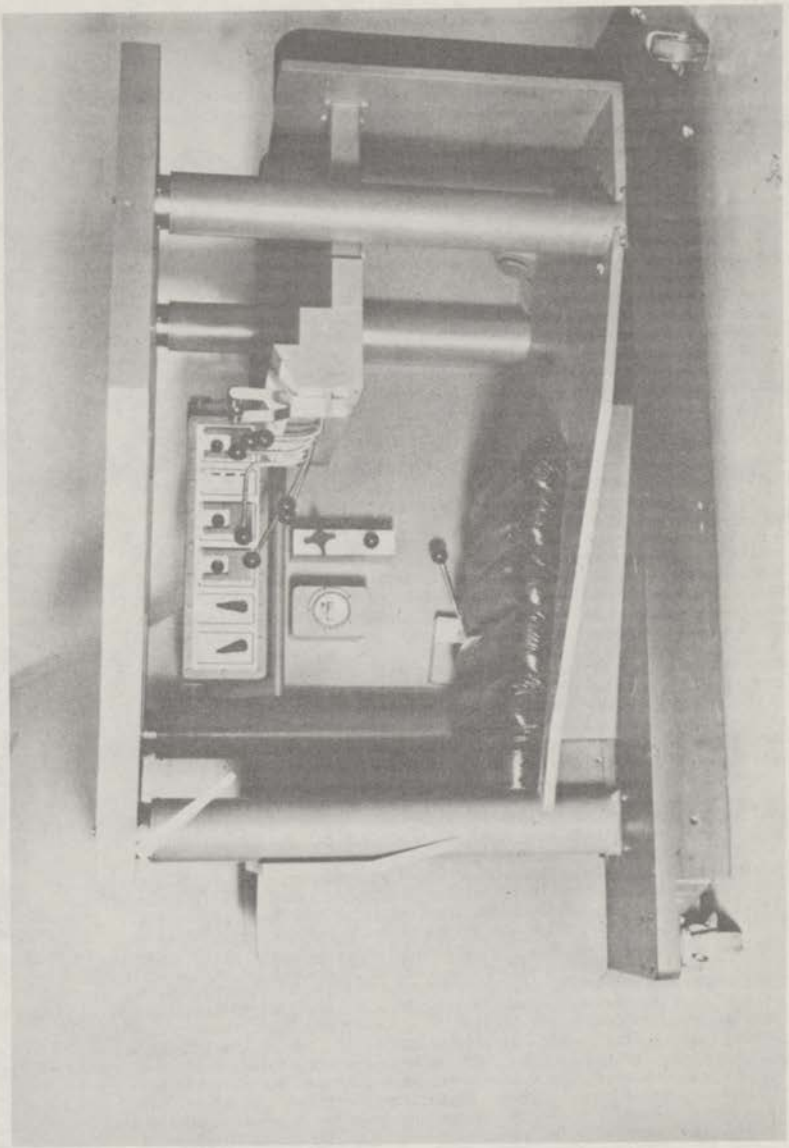
  During FY 1978, the first production prototype training system will have been evaluated and offered to the industry for commerical production. Industry-wide installation of lighting systems in underground coal mines will result from promulgation of the standards in October 1976. Unanticipated illumination difficulties and special problems will be investigated and solutions developed. Selected illumination demonstrations already underway will be maintained and monitored. Alternate minelighting systems will continue to be evaluated and measurement procedures for machine-mounted systems will be assessed. Methods for more effectively lighting surface mining machinery will be developed.

- Post Disaster--This program will continue to develop and evaluate emergency life support and rescue technology to maximize the miner's chances of surviving a mine disaster (explosion, fire, smoke, and toxic liberation or inundation). The FY 1978 program includes mine recovery, survival, communications, and rescue. Additional work on mine recovery activities is warranted by the recent loss of 11 rescue workers trying to recover 15 bodies from the Scotia mine following an initial explosion two days earlier.

  The FY 1978 research will optimize a one hour self-contained, portable, escape breathing apparatus and investigate and evaluate oxygen sources that may increase life support characteristics over present rescue team breathing apparatus to 90 minutes or more; evaluate underground rescue shelter techniques; improve the detection and location communication techniques of trapped miners; continue the improvement of borehole probes; develop effective garments for recovery and rescue teams; determine criteria to seal and recover sealed mines after a fire or an explosion; and develop and improve methods to continually monitor the environment of a mine before and after a disaster.

- Systems Engineering--This program aids the improvement of health and safety by providing for the maintenance and operation of underground test facilities in which research experiments can be conducted and in which hardware and procedures can be tested and demonstrated. Program efforts will also be devoted to the identification and definition of potential new health and safety problems that might result from the introduction of new coal mining methods and technology and to recommendations of the appropriate course of action to arrive at solutions to the identified problems.

The loading machine with an oblique mounted protective cab in a simulated mine entry. Limited cable storage is provided aft of the cab.



Optimized operator compartment for a continuous mining machine

Benefits

Benefits from implementation of this subactivity include:

- Improved health and safety conditions as reflected by reduced fatality and injury rates and lower health and safety compensation payments within the next decade.
- Availability of a comprehensive technologic base for improved or new mine health and safety standards that facilitate enforcement and compliance.
- More attractive employment situation for miners.

Constraints

Constraints that could affect this subactivity include:

- This subactivity is concerned with human life and cost/benefit analysis is not wholly applicable. Allocation of resources cannot be made solely on the basis of statistics of accidents and fatalities. Less tangible factors, such as the apprehension felt by miners as a result of major mine disasters must also be considered in establishment of research and development priorities.
- Labor-industry positions affect the program especially with respect to identification of research needs and evaluation of program effectiveness.

Program Effectiveness

The effectiveness of this program will ultimately be proven through long-term reduction of coal mining fatality and injury rates and through reduction in compensation for occupational health impairment. This reduction will result in part from the adoption by industry of the technology developed under the coal mine health and safety program.

Assessment of effectiveness is a necessary activity throughout the life cycle of the program.

- Evaluation studies will be carried out during FY 1978 to determine the potentially most productive avenues for new R&D in mine recovery and sealing following a disaster, and for noise suppression on certain types of underground mining equipment.
- Field testing and demonstrations are essential vehicles for insuring that the equipment and methods developed are meeting their design objectives. Testing of a continuous dust monitoring system and production prototype training system for equipment operators are planned for FY 1978. Availability of Pittsburgh surface mine test facility constructed during FY 1976 and FY 1977 will facilitate and enhance the evaluation of health and safety R&D projects at various stages of development and help provide direction to future activities.
- Formal evaluation of technology transfer activities will be conducted during FY 1978 to insure that the developments of the coal mine health and safety program are being communicated to industry and that proper emphasis is being given to facilitate adoption of new technology by the industry. Technology transfer relating to specific developments including mine lighting and communications system which were produced during FY 1974-1977 will be evaluated during FY 1978. These assessments will determine if improvements are required in the technology transfer program to accelerate technology acceptance by industry.

B. Metal and Nonmetal Mine Health and Safety Research

Fiscal Year 1977, $5,816,000; Fiscal Year 1978, $5,816,000; no change.

Major Program Changes

No change.

Subactivity Description

Long-Term Goals

- To provide technology on a continuing basis to decrease rock bursts and accidential falls of roof, rib, and face by improving artificial support, hazard detection, and mine opening design.
- To provide technology to correct hazards in electrical, mechanical, illumination, communication, haulage, and materials handline areas.
- To provide by the early 1980's improved technology for fire and explosion prevention and control to eliminate or reduce disasters.
- To provide improved technology to protect miners from harmful effects of noise, respirable dust, toxic gases, and radiation.
- To continually identify new health and safety problems that may arise during the development of advanced mining systems and subsystems and devise methods to eliminate hazards.

Fiscal Year 1978 Objectives

- Develop techniques to abate noise in large ore-processing mills and to quiet large rock drills.
- Evaluate methods of ventilating the working face in mines with large openings.
- Field test improved dust control technology for mining and milling operations.
- Demonstrate the feasibility of an automatic mine shaft fire protection system.
- Complete the development of a rock burst warning system.
- Determine the applicability of Schedule 2G requirements to metal and nonmetal mining operations.
- Evaluate guidelines for control standardization and braking systems for mobile mining equipment.

Alternatives and Strategy

The alternatives are to provide Federal assistance to the private sector in developing the technology to reduce the health and safety hazards of metal and nonmetal mining or to have industry develop the technology unassisted. Federal R&D support is essential to secure and to expeditiously transfer widely the technology needed to make mining a safe occupation. This technology has not and will not be generated by the industry alone. The Federal Government has the required resources and expertise, and the mandate, to promote the health and safety of the miner without requiring an immediate return on investment or productivity gains. Only the Federal Government is in a position to implement a program that is beneficial to all mines and free of parochial considerations.

Metal and nonmetal mining rank among the most hazardous occupations in the U.S. when considering both frequency and severity of injuries. Unquestioned technologic inadequacies exist that are the root cause of these injuries and fatalities. Statistics show that the major causes of accidents are falls of roof, rib, and face, electricity, haulage systems, fire and explosions, and mechanical equipment. Major causes of health problems are respirable dust, radiation, toxic gases, and noise.

Progress has been made in enhancing the health and safety conditions under which miners work; however, the inherently hostile and everchanging environment in a mine requires constant technologic change to prevent the hazard exposure from increasing. Only through c research and development can these technologies become available when needed, and only through a balanced, continuing research and development program can systematic improvements in health and safety conditions be achieved. Consequently, the Bureau's research and development program will continue to build present efforts and to maintain the broad base that attacks all the hazards found in metal and nonmetal mining.

Program of Work

Research, development, and transfer of technology will be conducted in all facets of metal and nonmetal mining involving health and safety hazards. These include:

- Respirable Dust--In order to protect workers from silicosis and other lung diseases, the major thrusts of this subprogram will be to develop and test improved dust samplers and sampling methodology; to develop new analytical techniques relative to new standards and; to design, develop, and field test improved and new dust control technology for mining and milling operations. The environmental survey contract with MESA will be completed during FY 1978.

- Radiation Hazards--The prime radiation hazard is from inhalation of radon daughters. The major objective of this research is to develop the knowledge, techniques, and practical procedures to reduce the miner's exposure to a safe level. Emphasis will continue to be on the development of a viable personal dosimetry system for measuring working level exposures. Work will also be conducted to determine if over-pressurization, either constant or cyclic, is an economical and practical approach in controlling radon emanation. Research on sealants, testing of bulkheads, and instrumentation development will continue.

- Noise--Experience with the noise regulations for metal and nonmetal mining operations has indicated that a large number of workers are exposed to noise exceeding the permissible 8-hour exposure level. Engineering solutions to noise problems from various types of mining equipment are sought through retrofitting and redesign. During FY 1978, research will continue on abating noise in large-scale ore-processing mills, and the quieting of large rock drills and arc-air cutting equipment will be undertaken.

- Industrial Hygiene--The diesel engine has proved to be a versatile power source for underground use. To enhance its usefulness and to assure the miner of a healthful environment, research will be conducted on emission control equipment to minimize the effects of diesels on mine air. Research to develop instrumentation suitable to monitor exhaust gas emission as well as to provide the miner with continual measurement of his exposure will continue. A study of the effect on air quality and distribution of exhaust products in mines will continue in order to provide data for ventilation engineering and for development of standards by MESA.

- Ventilation--A ventilation system that provides a safe and healthful atmosphere is difficult to establish and maintain in most metal and nonmetal underground mines. The long distances that the air must travel from the surface to the working places and the resistance to airflow in the airways result in ventilation systems that are complicated, costly, and sometimes potentially hazardous. Identification and evaluation of problems of ventilating various types of underground noncoal mines will be continued as will development of improved means for directing and regulating air in these mines. Included will be additional work on improved stoppings and methods of ventilating the working face in mines with large cavernous openings.

- Fires and Explosions--Mine disasters caused by fire and explosions have taken a heavy toll of lives over the years and are one of the major causes of miner apprehension. During FY 1978, research will continue to generate the technologic base needed to develop improved safety standards. A multifaceted program will apply recent advances in fire detection and protection and will include fundamental studies of the combustion behavior of mine materials and the structure of mine fires as they relate to factors such as ventilation pattern, shaft inclination and rescue methodology. During FY 1978, commercial fire protection techniques and hardware will be modified for in-mine use in critical combustion zones; continuing research is planned to demonstrate a modified Bureau-developed mine shaft fire detection system. Emphasis will also be placed on technology assessment to aid in the development of standards on the use and control of toxic combustible materials in mines, and the installation of fire detection and suppression hardware on surface and underground mobile equipment.

- Ground Control--The ground control program is directed towards the goal of mine planning to avoid or minimize the effect of ground failures. Falls of ground in metal and nonmetal underground mining operations are still a major cause of accidents. During FY 1978, research will be directed to completing the development of user-oriented rock burst warning equipment and systems. Rock mass destressing in advance of mining will be demonstrated as a workable means of hazard prevention. Delineation of abandoned mine workings by geophysical techniques will continue, with emphasis on simplification and standardization of techniques. Rock mass properties as a discontinuous unit will be characterized for the purpose of predicting ground response and defining ground support requirements. Development of remote bolting equipment and scaling devices shall be initiated. Methods for delineating roof, rib, and face hazards by geophysical means will be investigated through use of currently available remote sensing devices. Resin bolt evaluation criteria for metal/nonmetal mine use will be established with field test follow ups to provide for defining roof control plans by design manual concepts.

- Industrial-type Hazards--Efforts to ultimately design hazards out of the mining system in the areas of human factors engineering, electrical and equipment hazards, area and machine illumination, mine communication, and haulage and materials handling will be continued. In FY 1978, evaluation of training system course development initiated under the coal program, will be researched for metal and nonmetal mines; evaluation of power transmission and grounding techniques, developed for coal mines, will be evaluated in metal and nonmetal mines and specific problems resulting from power utilization will be attacked; control standardization for equipment will continue and braking requirements for haulage roads will be established; innovative equipment designs will be initiated; mine lighting installed in FY 1977 will be maintained and evaluated. Lighting problems for various types of metal and nonmetal mines and mining methods will be investigated; investigations to improve hoisting systems will continue; whole mine communication demonstrations will continue; investigation of automatic surveillance of the entire mine environment will continue.

- Post-Disaster--Emergency life support systems and rescue technology are needed to maximize the miners' chances of surviving a mine disaster (explosion, fire, smoke and toxic product liberation and inundation). Also, criteria must be developed to determine when and how to seal mines following a mine fire or explosion. In FY 1978 the life support system and rescue technology developed under the Bureau's coal mine health and safety research program will be studied and evaluated as to its applicability to metal and nonmetal mine rescue and recovery following a disaster; investigation will continue toward the development and evaluation of an emergency communication system that will ultimately provide through-the-earth trapped miner location and communication; communication between miners in cages and hoistman; environmental monitoring of the mine atmosphere at strategic locations following a mine disaster; guidelines for refuge chamber installation; develop emergency hoisting procedures; and develop criteria to determine when and how to seal a mine following a disaster.

- Systems Engineering--This program will seek to improve mine health and safety by identifying and defining potential new health and safety problems that might result from the introduction of new mining methods and technology in metal and nonmetal mines and by recommending further research to solve these problems. The decision criteria used by the mining industry for adopting improved health and safety hardware will be identified and analyzed in order that future Bureau-developed technology can be transferred to industry in a more timely manner.

Benefits

Benefits from implementation of the Metal and Nonmetal Mine Health and Safety Subactivity include:

- Continuation of the historic downward trend in fatalities and a favorable impact on the injury rate and on the number of cases of hearing impairment, silicosis, and radiation-induced cancers.

- Technology assessment will provide better bases for improved and new mine safety standards in terms of both enforcement and compliance.

- Significant improvement in health-related and safety conditions will aid in assuring manpower needs to meet production demands.

Constraints

Constraints that could affect the Metal and Nonmetal Mine Health and Safety subactivity include:

- Unlike the Federal Coal Mine Health and Safety Act of 1969, the Federal Metal and Nonmetallic Mine Safety Act of 1966 neither specifies supportive R&D nor provides for authorization of funds.

- Present funds must be primarily allocated to immediate problems and adequate attention cannot be given to longer range problems.

Program Effectiveness

The effectiveness of this program will ultimately be proven through the adoption by industry of the technology developed under the metal and nonmetal mine health and safety program, by impact on MESA standards and enforcement, and by a favorable trand in the accident statistics.

The effectiveness of the program is assessed by using approaches such as those described below.

- Evaluation of Bureau-developed technology is performed in cooperation with mining operations.

- Field tests establish whether or not project goals are being met. They also provide direction to current and future development programs. During FY 1978 field testing activities will include evaluation of new dust control methods and a personal radiation dosimetry system. Demonstration of a Bureau-developed mine shaft fire detection system will also be carried out.

- Measurement of the effectiveness of technology transfer activities is made by assessment of the speed with which R&D developments are integrated into mining operations and reflected in health and safety standards. During FY 1978 evaluations will be conducted of the acceptance by industry of the rock burst warning system, noise suppression devices, and mobile equipment fire detection and suppression systems. Based on these evaluations fine tuning of the technology transfer activities will be possible with respect to these and other systems.

- Determination of the most productive R&D options at the start of a new series of program activities helps insure that resources are allocated in the most effective manner. During FY 1978, analyses will be made to determine the most promising areas for research in the ventilation of large cavernous mine openings and in safety training for metal and nonmetal mine employees.

C. Advancing Coal Mining Technology

Fiscal Year 1977, $57,836,000; Fiscal Year 1978, $55,001,000 decrease of $2,835,000.

Major Program Changes

(1)	Advancing Coal Mining Technology	-$2,835,000; total $55,001,000 -0 positions; total 343 positions.

Proposal. Reduced level of funding provided here so increased funds can be provided for the coal preparation program. Combined funding and personnel resources for the advancing coal mining technology and coal preparation programs will be held at about the FY 1977 level.

Justification. Since environmental constraints are the most serious constraints limiting coal demand, some resources are being shifted to the coal preparation program which is designed to make coal more environmentally acceptable and hence more marketable.

Cost Factors. The decrease of $2,835,000 is in contractual services.

83-561 O - 77 - 62

Subactivity Description

Long-Term Goals

- To improve existing coal extraction technology with economically achievable production and productivity increases.
- To minimize the environmental impact of advanced mining technology and increase resource recovery.
- To develop new and improved mining technology that will enhance worker productivity through safer and more healthful mining conditions.

Fiscal Year 1978 Objectives

- Continue development of surface coal mining and reclamation systems.
- Continue evaluation of a drilling system for rapid construction of ventilation shafts.
- Continue evaluation of effectiveness and applicability of longwall systems to U.S. mining conditions.
- Continue development of cost-effective techniques to mitigate environmental impacts of underground mining.

Alternatives and Strategy

The coal mining industry faces the general problem of supplying coal at minimum cost within a prescribed set of environmental and social constraints.

The alternatives are to provide Federal assistance to the private sector by developing the technology to mine our vast coal resources or to have industry develop the technology unassisted.

The major deterrent to technical solution by the private sector is the boom and bust history of the coal industry. The heavy investment in equipment and mine development and the low profit ratio in relation to investment tends to favor pragmatic concern with near term cash flow rather long-term benefits arising from improvements in resource management or mining methods. Individual members of the industry have limited incentive to undertake R&D since the benefits usually tend to accrue to the industry as a whole rather than to the company making the investment.

Most changes in mining methods and equipment are incremental improvements in accepted approaches rather than innovative departures, because of the heavy investment in equipment and mine development and flexibility once a commitment is made. mining companies are understandably reluctant to attempt new and untried processes. Consequently there is strong incentive to continue with accepted lines rather than develop high risk innovative improvements. The equipment is long lived and the opportunity for sales of new and improved equipment is limited. Each of the major manufacturers has established lines of equipment that have been proven in long years of use by satisfied clients. In addition, there is little incentive to reduce the cost of coal since the principal users of coal, metallurgical processors and utility companies, have been able to pass the cost along to the final consumer.

Underground coal mining is expected to continue to increase its production over the next twenty years and then assume the major share of production at

tremendously increased levels. This type of mining has suffered a major (approximately 40 percent or 15.6 ton/man shift to 9.5 tons/man shift) decrease in productivity over the last seven years with major impact on coal prices which have increased over 360 percent ($5.60/ton to $26.30/ton). This cost/productivity functional relationship is depicted by the curve on the accompanying chart which suggests that, had we been able to regain the 1969 levels of productivity in 1976, the FOB mine savings to the consumer would have been about $2.0-2.5 billion in 1976 alone. The loss of productivity must be reversed by reducing the amount of human labor required for each ton of coal mined. In addition, this form of mining must find better ways to protect the miner and the environment, increase coal recovery and develop innovative methods to convert presently unminable resources into reserves.

Surface coal mining which is expected to be our principle source of coal for the next two decades must develop methods for reducing the environmental consequences of mining. Productivity has declined over the last five years and will fall further as more effort is devoted to environmental protection. Better mining and reclamation systems must be developed to assure maximum efficiency while assuring maximum environmental protection.

Although there exists a diversification of methods for mining coal, there does exist a high degree of commonality between the equipment and methodology. This suggests the existence of a research program that concentrates on improvement of equipment and techniques which have a high degree of utilization. This type of strategy requires a broad based, unified program with strong ties to the mining industry that can aid identification of appropriate targets for research and development, and provide a means of introducing and demonstrating newly developed technology.

The Federal Government offers the most effectual means for a program of this scope to be conducted in a successful and cost effective manner.

The Bureau's program is structured to provide the needed technologic improvements. In the short term, emphasis is on the acceleration of development and use of promising concepts from domestic and foreign sources. Particular effort is being devoted to those approaches which appear to offer the potential for substantial longer-term improvements. In the intermediate to long term, emphasis will be on the improvement of promising current technologies and the development of complementary subsystems to produce synergistic benefits.

Program of Work

There are three basic areas of effort in the Advancing Coal Mining Technology program; underground mining, surface mining, and supporting studies. The general program of work within these areas include:

- Coal Mine Development--A key in the development of a new mine is bringing it into production in the shortest possible time. Continued program emphasis is being placed on mechanizing the construction of shafts and slopes to reduce the time and cost required to gain access to the coal; the development of equipment capable of rapid continuous drivage of entries among the coal seam; and mine planning techniques to assure the best possible overall method to minimize mine life-cycle costs.

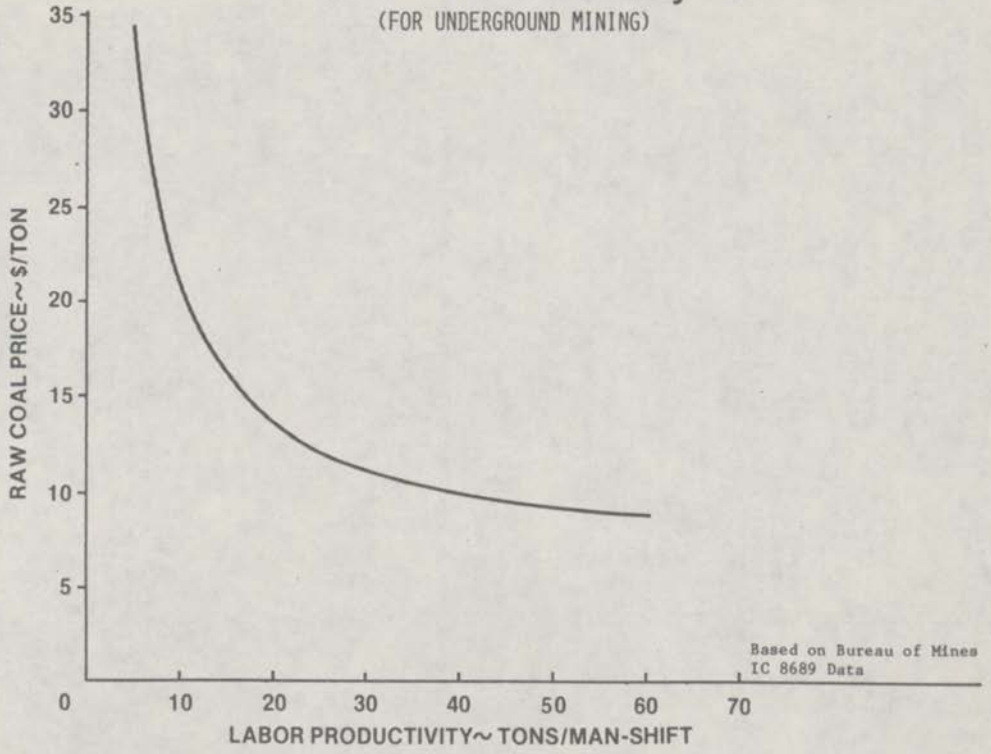
Examples of projects that will be conducted during FY 1978 include:

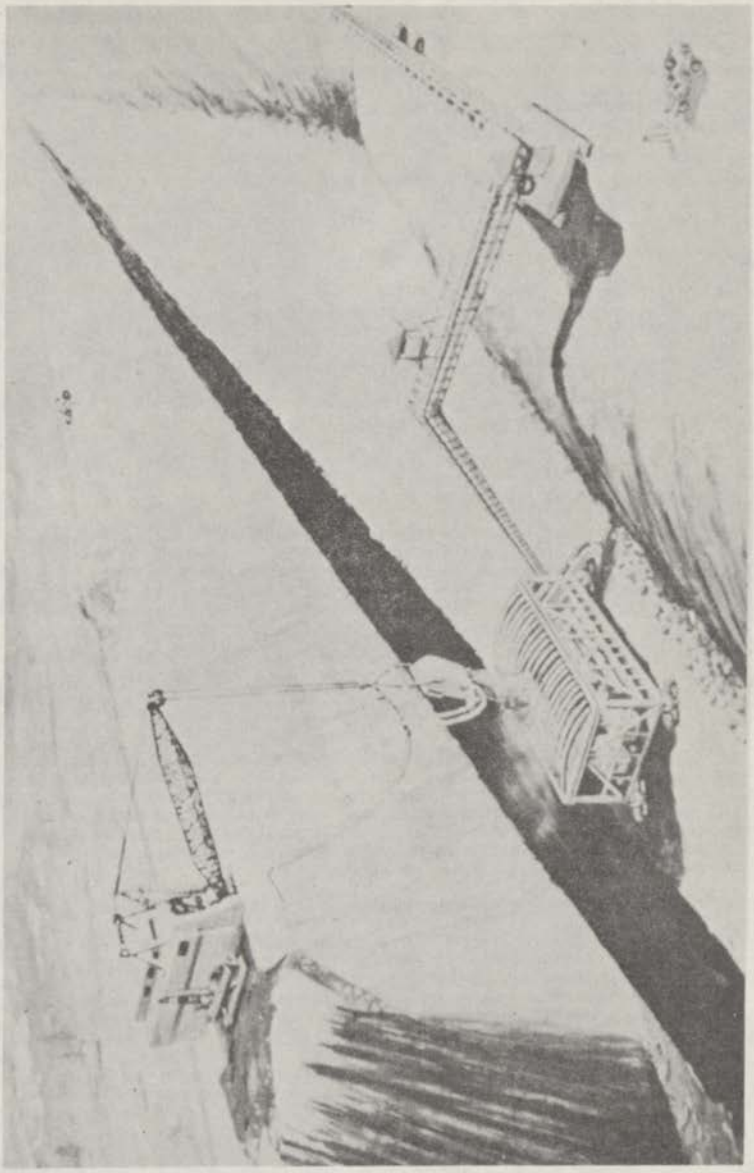
--Feasibility trials and evaluation of a drilling system for rapid construction of ventilation shafts without the presence of men in the shaft.

--Continue underground evaluation of the tunnel boring machine.

Cost of Coal As A Function of Labor Productivity

(FOR UNDERGROUND MINING)





Cross-pit overburden handling system

- Longwall and Shortwall Mining--These methods have the potential for more continuous mining operations, improved resources recovery and safety at the work face. Emphasis in the program is on demonstrating the effectiveness and applicability of these methods and systems to a wider variety of circumstances and conditions to allow for greater use than the present level of five percent and to automate the process to increase safety, productivity and resource recovery.

Examples of projects scheduled for FY 1978 include:

--Development of an automated longwall shearer

--Preliminary design of a wide web longwall mining system.

- Conventional and Continuous Mining--These methods represent established underground coal mining techniques. Program emphasis is on optimizing system operating cycles for increased productivity, increasing automation to improve productivity and worker protection, improving present system reliability and productivity and developing better secondary mining systems to increase resource recovery.

Projects to be conducted during FY 1978 include:

--Evaluation of alternative systems for roof bolting

--Design of high reliability continuous miner.

- Advanced Mining Systems--New and improved methods of mining thick, thin and multiple coal seams are investigated. Emphasis is on the investigation of advanced concepts and techniques such as automated and borehole mining that would allow coal recovery without the presence of the human underground. The program is also directed toward the demonstration of current technologies which allow greater extraction efficiency and special mining systems that can cope with difficult mining conditions.

Examples of advanced mining system projects to be pursued during FY 1978 include:

--Design of a high volume hydraulic coal mine section.

- Surface Coal Mining--New or modified extraction and reclamation equipment and techniques are required to assure maximum near-term coal production. Program emphasis is on the development and demonstration of extraction and reclamation mining systems and methods to eliminate the environmentally unacceptable problems such as highwalls and stream siltation in the eastern states and which permit environmentally acceptable mining in areas with delicate ecologies such as the western states.

Projects to be conducted in FY 1978 include:

--Development of improved mountain top removal-valley fill mining methods for the Appalachian Coal Province.

--Development of operating guidelines for Appalachian coalfield tandem area mining systems.

- Supporting Studies--Special studies are undertaken from time to time on various aspects of both surface and underground mining in order to determine where improvements are needed in equipment and methods and what consequences may be expected from various alternatives, together with a cost benefit

analysis of the alternatives. Included also is the development of the data base on coal reserves, utilization, and other information related to coal production and use.

Areas of study planned for FY 1978 include:

--Continue analysis of cost-effectiveness of alternate systems design.

Benefits

The improved coal extraction that will result from this program should enable the coal industry to provide the Nation with ample supplies of clean coal at acceptable social, economic, and environmental costs. The ready availability of coal for conversion to heat, electricity, gas or liquid would act as a brake on import oil prices and provide an opportunity to conserve domestic oil and gas. The principal benefits of improving technology will include the following:

- Greater coal resource recovery and utilization.
- Increased coal mining productivity.
- Increased coal production at reduced cost.
- Less hazardous mining methods and equipment.
- Reduced environmental impact from mining.

Constraints

One problem which the program will increasingly face in later years is the fact that existing coal mine health and safety regulations were implicity or explicity written with the then current mining technologies in mind. While provision in the Coal Mine Health and Safety Act specifically recognizes that exceptions to the Act may be granted for the testing of research products, regulatory agencies must be willing and able to quickly modify standards to permit industrial use of technologic products as soon as the net benefits are recognized.

Program Effectiveness

The effectiveness of this program will ultimately be proven through the adoption by industry of the technology developed under the coal mining program. A measure of success of the program is its ability to reduce the cost of coal extraction and the disposition of related waste material to acceptable social and economic levels, with a minimum of of environmental degradation and maximum protection of the health and safety of the miner and the public. If the cost of coal cannot be reduced or stabilized through the use of improved technology and in a way that other national expectations are assured then technologies for conversion of coal to oil and gas will never be cost-effective and the cost of power from direct combustion of coal will also rise.

This is an evolving program in which many of the related technical, environmental, and institutional problems have only recently been raised, and as such, constitutes a basic feedback network, which allows continuing evaluation of the effectiveness of the various stages of the program.

- Demonstrations will be conducted to determine the effectiveness of newly developed systems.
- Program effectiveness of completed projects is measured by continuous monitoring of the degree of acceptance by industry of the systems developed,

and effects of those systems on production. The results are tracked against cost benefit analysis performed at earlier stages in the R&D process.

D. Coal Preparation

Fiscal Year 1977, $2,120,000; Fiscal Year 1978, $5,020,000; increase of $2,900,000.

Major Program Changes

(1) Desulfurization of Coal +$300,000; total $600,000
+0 positions; total 6 positions

Proposal. A large part of this increase will be expended for contracts in testing the effectiveness of high gradient magnetic separators for removing finely divided pyrite from coal. Test results will provide the basis for determining the applicability of separation in coal beneficiation.

Justification. The major barrier to increasing the utilization of much of the Northern Appalachian and Midwestern Region coals is the high sulfur content. Lowering the sulfur content to acceptable levels in coal from many seams is possible provided almost all of the pyritic sulfur is removed. Research supported by the Federal Government is required in developing this new technology which may result in increasing the utilization of coal produced in the principal coal regions of this country.

Cost Factors. The increase of $300,000 is in grants and contractual services.

(2) Fine Coal Dewatering +$400,000; total $600,000
+0 positions; total 3 positions

Proposal. The increase will be used to advance technology to lower the water content of coal by developing improved laboratory processes and investigating untried ideas.

Justification. Coal preparation processes to remove pyritic sulfur and ash increase the water content of the coal. Dewatering by conventional filtration and centrifugation technology provides products with approximately 20 percent water. It is critical in saving Btu's and reducing shipping costs to improve on this technology. The potential savings to the public through increased use of high sulfur coals for power and steam production are enormous.

Cost Factors. The increase of $400,000 is in contractual services.

(3) Laboratory Process Demonstration +$2,200,000; total $2,200,000
+0 positions; total 2 positions

Proposal. The funds will be used to construct a small but completely integrated and continuous processing test facility with a capacity of 15 to 25 tons per hour. Flowsheets of differing preparation equipment configuration will be used to demonstrate new coal cleaning technology and document the process costs as a means of transferring this technology to coal producers.

Justification. Equipment for cleaning coal is expensive and a new or modified preparation plant represents a large capital investment. Coal producers are reluctant to invest in new equipment without assurance that the equipment will perform properly and costs can be recovered. Seeing a process in operation is a most effective method for gaining acceptance of a process. The increase will be used to construct a test facility and to house bench scale laboratory experiments. The Environmental Protection Agency has indicated a willingness to contribute funds for the construction and operation of the test facility. An interagency

agreement will have been completed whereby ERDA will also contribute funds for the test facility and the Bureau will in turn supply feedstock for ERDA coal conversion processes.

Cost Factors. The increase of $2,200,000 is in contractual services.

Subactivity Description

Long-Term Goals

- Decrease environmental degradation resulting from coal processing and use by developing improved technology for desulfurizing coal.
- Decrease real cost of premium quality coal.
- Increase utilization of lignite and subbituminous coal.
- Increase utilization of Northern Appalachian and Midwestern coals.

Fiscal Year 1978 Objectives

- Complete experiments to remove pyrite by high gradient magnetic separation.
- Complete laboratory experiments on air-water oxidation of organic sulfur and on surfactants as filter aids in removing water from fine coal.
- Complete preliminary experiments on agglomeration as a means of dewatering fine coal.
- Continue construction of the coal preparation demonstration/test facility.
- Complete demonstration of lignite pelletizing.
- Complete assessment of new technology - particularly coal cleaning combined with flue gas scrubbing.
- Complete analysis of 20 representative coals to determine association and amount of fugitive elements in ash pyrite and coal constituents of the samples.

Alternatives and Strategy

If the Federal Government acting through one or more of its agencies such as the Bureau of Mines, does not develop improved coal preparation technology, steam coal consumers, which are principally utilities, will be forced to scrub stack gases or to transport low sulfur coal great distances. Stack gas scrubbing to remove sulfur dioxide is estimated to cost about $12 per ton of coal burned. Transportation by unit train costs about one cent per ton mile so transportation costs can more than double the delivered costs of western coal. A major utility in an eastern city plans to transport western coal 1,700 miles. Transportation and scrubbing costs will be passed on to the ultimate users in the form of increased utility rates.

It is the Bureau's intention to develop improved technology in the laboratory which can be demonstrated as practical methods of removing waste, sulfur and excessive amounts of water from coal. Traditionally, the coal industry has been slow in developing or adopting highly innovative technology. Many small and medium producers do not have the competence to conduct research and they are reluctant to risk large investments in improved coal preparation plants without proof of their potential economic payoff. The Bureau's coal preparation program includes projects for cleaning coal at costs well below the projected costs of solvent refining, stack gas scrubbing, or transporting low sulfur western coal to eastern states.

Program of Work

- Coal Desulfurization--If improved coal-cleaning technology were available then substantially greater quantities of coal in the midwest and the Appala-

chian regions could be burned for power generation and meet environmental new source standards on sulfur dioxide emissions. If utilization of coal is to increase in these two major regions, economical procedures must be developed for removing sulfur from these coals. During FY 1978, increased emphasis will be placed on fine grinding followed by flotation in achieving removal of the pyrite. Experiments using high gradient wet and dry magnetic separation will also be conducted. Several methods of removing organically combined sulfur are under investigation for the purpose of concentrating effort on two or more of the more promising processes for removing organic sulfur.

- Fine Coal Dewatering--As more coal is fine ground in achieving liberation of the pyrite and other wastes from coal prior to separation by flotation or other means, the problem of dewatering the fine coal becomes more acute. Roughly 4 pounds of coal are required to drive off each one percent moisture in a ton of coal so 10 percent moisture requires 40 pounds of coal that otherwise could be available for doing useful work. An increased effort is planned for dewatering research and will include the use of surfactants as a filter aid, oil as an agglomerating agent and a combination of centrifugation and agglomeration.

- Process Demonstration--As new or improved techniques are developed in the laboratory, they will be demonstrated using commercial scale equipment in integrated flowsheets. Demonstrations will serve in proving out the reliability of equipment in performing various functions and will also provide operating data for estimating the economic feasibility of flowsheets. A demonstration/ pilot plant facility is being assembled and will become operational in FY 1979.

- Coal Waste Utilization and Control - More effective processes for removing pyrite and ash from coal in upgrading it as a premium fuel will result in the creation of more fine wastes. Improved technology is required for recovering fine coal currently lost in process wastes to reduce the volume of such wastes and also to reduce the loss of Btu's. A process will be demonstrated for recovering fine coal and bench scale tests conducted on recovering and utilizing fine wastes as construction materials.

- Support Technology and Assessment - A project designed to obtain a better understanding of coal flotation and other processes dependent on the surface chemistry of coal will be continued. Also, a more comprehensive assessment of coal cleaning processes, including combinations of physical and chemical processes, will be conducted. Coal cleaning by physical and chemical means combined with flue gas advancements in coal cleaning and flue gas scrubbing.

- Improving Coal Handling and Burning Characteristics - Lignites contain high percentages of moisture that causes winter freezeups in cars and bins, decreases the calorific content of the coal, and increases shipping costs. Some lignites and subbituminous coals contain high percentages of sodium which causes slagging difficulties in combustion chambers.

  A demonstration of a pelletizing process for lignite will be completed. Laboratory experiments to remove sodium from lignite and subbituminous coals will be continued and tests conducted to develop cheaper methods of drying lignite and subbituminous coals. A comprehensive study to determine the amount of fugitive elements in coal and the association of fugitive elements in the ash constituents, pyrite and clean coal will be continued.

Benefits

The major constraint on coal utilization is the fact that it is a dirty fuel and more difficult to handle, store and burn than petroleum and natural gas. On the

other hand coal is cheaper on available Btu basis than either oil or gas and coal reserves are abundant. If coal can be cleaned so it is a more acceptable fuel that can be burned for generating electrical power without degrading the environment, more oil and gas will be available for other purposes such as heating homes, transportation and special uses. The public will benefit in the form of smaller electrical bills through savings in fuel costs. Currently 3.7 trillion cubic feet of natural gas and 600 million barrels of oil are burned each year to generate electrical energy. Since the cost of oil and unregulated gas is roughly double the cost of coal on a Btu basis, the annual savings of replacing oil and gas with coal for utility generation would amount to approximately $5 billion. A savings of $1-2 billion annually based on converting 20 to 40 percent of the oil and gas fired utility plants to coal fired is more realistic.

Constraints

Acceptance and adoption of new and improved coal preparation technology represents the major constraint on program effectiveness. Coal producers are reluctant to risk investment capital and to increase operating costs of cleaning coal without adequate assurance that the additional costs can be recovered in increased coal prices. Utility companies are reluctant to enter long-term contracts because of the uncertainty of regulations on pass through charges and on degradation of the environment. Utility companies are also waiting on further development of scrubbing technology before deciding on long-term contracts.

Program Effectiveness

The ultimate measure of effectiveness of this program will be the increased use of new and improved coal preparation technology. This will enable much greater tonnages of domestic coal to be consumed and will lessen our dependence on petroleum and natural gas imported from foreign sources. The benefits of this increased use of coal will accrue to the public as a consumer of energy.

The coal preparation program is expanding to insure that the technology will be available to permit greater use of domestic coal deposits. As this program develops, extensive use of laboratory and demonstration testing of new processes will be conducted to assess progress toward program objectives. Testing aids the determination of the most attractive and cost effective avenues for research. Demonstrations insure not only the technological but also the operational practicality of new coal preparation methods. Construction of the demonstration and test facility, which is funded entirely in FY 1978, will be completed in FY 1979. During FY 1978 fine coal dewatering developments will undergo extensive testing and evaluation as a means of obtaining commercial adaptation of innovative dewatering processes.

E. Advancing Oil Shale Mining Technology

Fiscal Year 1977, $5,663,000; Fiscal Year 1978, $3,221,000; Decrease of $2,442,000.

Major Program Changes

Proposal. The decreased level of funding reflects a decision not to build a demonstration mine for the recovery of the deep oil shales.

Justification. A deep oil shale demonstration mine is not needed at this time because the oil shale industry will first develop at shallower levels when this becomes economically feasible.

Cost Factors. The decrease of $2,442,000 is in contractual services.

Subactivity Description

Long-Term Goals

- To develop, test and demonstrate, improved, low-cost mining methods and equipment that will be needed to mine the large tonnages of oil shale expected in the 1980's and to assist government and industry decision-makers in the determination of the economic and other consequences of oil shale mining.

- To develop waste stabilization techniques for processed shale in order to assure that the surrounding environment is not degraded by mining or waste disposal operations.

- To evaluate the nature and extent of hazards associated with the working and living environment in the oil shale industry and which affect the design of mining/processing/disposal systems.

Fiscal Year 1978 Objectives

- Complete construction and begin operations of 8-foot diameter exploratory shaft in the deep oil shales near the center of the Piceance Creek Basin.

- Initiate rock mechanics investigations in the mahogany zone where recent findings have indicated low in-situ rock strengths.

- Begin collection of bulk samples of the potentially valuable saline materials.

Alternatives and Strategy

The alternatives are to provide Bureau of Mines assistance to the private sector in developing the mining technology, to have ERDA develop the advanced technology such as in-situ and modified in-situ, or to have industry develop the technology unassisted. As with any emerging technology or major industrial operation, a paucity of information always exists on which to base government and industry decisions. The development of an oil shale industry is no exception. Federal participation is required because of the high costs and risks inherent in applying new technologies and the need for a sound technologic basis for governmental regulation of mining of public lands.

Even with proven methods, mining is a high-risk venture, and industry is willing only to accept a limited amount of risk. For example, several private ventures including those involved in the Department's Prototype Leasing Program have recently reported finding low in-situ rock strengths in the mahogany zone in the center of the Piceance Creek Basin. This unexpected condition has caused several firms to halt operations and others to consider abandoning their experimental operations and terminating their leases.

Federal participation also insures wider dissemination of the developed and demonstrated technology, accelerates progress beyond normal commercial capability and assures adequate attention to other aspects such as environmental which impact society as a whole.

The Bureau's strategy for implementing the Federal assistance effort is to develop the facts through engineering and proof-of-principle tests to assure that government and industry planners have sufficiently well founded information on which to base decisions relating to the problems of mining oil shale and related saline materials, explore the nature and severity of hazards to which the oil shale community might be exposed, and investigate environmentally acceptable methods of disposing of spent shale and mine wastes. The results of these studies are used by the Bureau to develop and demonstrate mining methods

and disposal procedures that are acceptable from the standpoint of economics, environment, health and safety, and resource recovery.

Program of Work

- Mining Techniques--The investigation of various oil shale mining techniques will be continued in FY 1978. These include integrated open pit mining, modified in-situ extraction, and underground mining such as room and pillar, caving, and multiple-pass mining. Cooperative field experiments will be conducted with several private ventures. The investigations and field experiments will focus on determining the technical and economic feasibility of the various alternatives as well as resource recovery potential, environmental impact, and other consequences. In addition, work will begin in the Bureau's 8-foot shaft. The first in-situ information on constitutive relationships, oil shale fracturing, pillar strengths, support effectiveness, etc., necessary for mine design will be developed. Bulk samples of the deep nahcolite deposits (which differ mineralogically from other nahcolite samples previously obtained) will be obtained for evaluation as to their efficiency as a low-cost stack gas scrubber. Bulk samples of deep dawsonite (again different in character from other samples obtained thus far) will be mined for testing as a potential source of alumina. In-situ methane, ground water, dust characterization, hydrocarbon vapors, gases and other industrial hygiene data will be gathered.

- Waste Disposal--The nature and magnitude of problems associated with the disposal of oil shale wastes are dependent on the physical properties of the waste, the mining method, quantity of material, handling or rehandling sequence, type of disposal site available, transportation method, placement method, and the hydrology of the disposal site. There will be 15 to 25 percent more waste volume to be disposed of than is mined. Thus, even if acceptable techniques for underground disposal are developed, there will always be a requirement for permanent surface disposal. In FY 1978, the Bureau will continue defining and quantifying these problems and seeking solutions that are both economic and provide for safe, environmentally compatible, and aesthetically acceptable methods for the disposal of mining and processing wastes.

- Working Environment--Because only pilot plant studies have been performed on oil shale and then only under a narrow range of conditions, the potential mine siting and environmental problems associated with a commercial facility are not fully understood. However, existing information suggests that certain industry-wide community problems will exist. As an example, fugitive dust may be serious because some oil shale zones produce a dust which contains up to 10 percent silica. Airborne contaminants from retorting may be carcinogenic or act as skin irritants. It is also known that dust from oil shales with kerogen contents exceeding 20 gallons per ton is explosive under certain conditions. Bureau studies will therefore be made to locate and assess the potential severity of all siting hazards so that R&D under the Metal and Nonmetal Health and Safety program can provide solutions where problems do exist.

Benefits

Benefits from implementation of the Advancing Oil Shale Mining Technology subactivity include:

- The research results will accelerate the conventional technological growth rate by accepting the risk inherent in the development, testing and demonstration of promising innovative concepts.

- The information developed will serve as a direct stimulus to private industry to develop an efficient, technically sound, oil shale industry that will meet high environmental standards.

- The research effort will generate reliable and timely scientific and engineering data to provide the technical basis needed by government in establishing policy and administering a sound development program for the 80 percent of the resource that is on Federal land.

Constraints

Constraints that could affect the oil shale program include:

- Recent discovery indicating low in-situ rock strengths in the areas to be explored.

- The degree of success of the Department's Prototype Leasing Program will be a subsequent consideration in program planning.

- The myriad of Federal, state, and local laws, regulations, permits, exceptions, etc. including MESA regulations, environmental impact requirements, withdrawal permits, water rights, etc., have a direct impact on site selection, exploratory drilling, shaft sinking, and demonstrations.

- Competition is strong for available service facilities in the area, especially for drill rigs and supporting services which are in short supply.

- Limited field season in the Piceance Basin.

- Paucity of geologic and hydrologic information on the potential borehole sites.

Program Effectiveness

The effectiveness of this program will ultimately be proven through the adoption by industry of the technology developed under the oil shale mining program. This is an evolving program in which many of the related technical, environmental, and institutional problems have only recently been raised.

A start can be made toward assessing the impact of the program by addressing several specific issues, e.g.:

- Is the information and technology being developed and demonstrated by the Bureau increasing the commitment by the industry in developing the oil shale resources?

- How effective is the program in transferring this technology and information to the industry?

- What are the technological problems that the industry is least able to resolve and what should the Bureau be doing?

F. Advancing Metal and Nonmetal Mining Technology

Fiscal Year 1977, $6,267,000; Fiscal Year 1978, $6,267,000; no change.

Major Program Changes

None.

Subactivity Description

Long-Term Goals

- To develop improved technology for the mining of massive ore deposits.
- To develop a continuous mining system for hardrock, bedded deposits which can be used commercially by the early 1980's.
- To develop technology for faster, more economical shaft sinking and improved hoisting systems for use in the late 1970's.
- To provide technology for increasing stope mechanization in deep vein mines by the early 1980's.
- To provide technology for improved control of environmental effects related to surface mining, airblast/ground vibration, waste disposal and slope stability.
- To demonstrate the feasibility of in-situ mining technology for recovery of copper and uranium by the end of the 1970's.
- To develop and demonstrate improved techniques for determining ore body characteristics.
- To assess problems associated with the safe and effective use of explosives in all types of mining activities.

Fiscal Year 1978 Objectives

- Development and demonstration of a portable crusher for secondary breakage and more efficient materials handling underground.
- Design of a complete prototype continuous spiral drill and blast machine and fabrication and testing of the individual subsystems.
- Development and demonstration of improved skip and guide systems to improve hoisting capabilities.
- Demonstration of mechanized system for extracting ore from narrow vein mines.
- Demonstration of pit slope caving system to improve the economics of mining lower grade near-surface deposits.

Alternatives and Strategy

The metal and nonmetal (non-fuel) mining industry covers a wide range of mining methods, each with its own set of problems. In addition, nearly every mine is unique in some way and has its own particular problems. In terms of emphasis, research alternatives include:

- Spreading research efforts across all problems (do a little on every problem) to concentrating all efforts on one problem at a time.
- Short-term research for remedial action and incremental improvement to long-term research to develop entirely new methods of mining.

- Conducting basic theoretical research to developing and demonstrating new and improved hardware and techniques.

The basic strategy employed by the Bureau places emphasis on research that will provide the technology needed by broad segments of the industry with emphasis on those problems with the greatest potential benefits. Most metal and nonmetal mining problems require short-, mid-, and long-term research. The Bureau's strategy is to maintain a balance such that problems which can be solved quickly are attacked without sacrificing longer-term payoffs. Heaviest emphasis is placed on underground mining because of the difficult operating conditions, the applicability of these methods to critical minerals, the limited incentive for mining companies to pursue research in underground mining, and because the trend of the future is to increased underground mining as surface ores become depleted and environmental concerns increase.

Program of Work

This subactivity is structured in accordance with the nature of metal and nonmetal mining problems. Mining systems, which are applicable to a variety of commodities, are determined by the geologic occurrence of the orebody. The individual elements of these systems are examined to determine which require technologic solutions to improve efficiency or are constraints to extracting lower-grade or more difficult ores.

Achievement of the broader, long-range objectives will require multi-year research efforts. Shorter-term objectives will change as solutions are found and as new problems are identified. The program focuses on the development and demonstration of improved practical equipment and methods for extracting minerals, the continued evaluation and testing of explosives, blasting agents, etc., and includes the following:

- Underground Mining--This effort will be concerned with methods applicable to massive, bedded, and vein deposits. The lowest-cost underground methods of mining massive deposits utilize caving of the orebody. Critical problems with these methods are secondary breakage of the ore, maintenance of optimum operating control of the caving process, and the need for better techniques for characterizing rock properties and their influence on caving phenomena. In FY 1978, research, started in FY 1977, will continue to develop a portable underground crusher tailored to the needs of the industry as identified in an earlier study. In-mine measurements and analyses will be made to improve the understanding of caving phenomena in order to provide more effective mine designs and operating procedures.

  In underground bedded deposits, the primary mining method is room and pillar mining, a method which is cyclical in nature and often wasteful in that up to 50 percent of the mineable ore is often left in pillars for roof support. Continued emphasis will be placed on the development of continuous drill and blast mining systems to alleviate the inefficiencies of the present cyclical methods. A hardrock longwall system will continue to be developed during FY 1978 to improve extraction ratios. These are longer-term research projects, but the potential impact on the mining of bedded deposits, including the critical minerals such as copper, iron, and zinc, is considerable.

  Most vein mines are deep, small in lateral extent, and have high shaft sinking, operating and maintenance costs. Because of narrow workings, the degree of mechanization has not kept pace with the rest of the mining industry. Fiscal Year 1978 research will focus on improved shaft sinking techniques, increased mechanization of stope operations, improved shaft skip and guide designs, and improved methods for transporting and placing backfill materials.

83-561 O - 77 - 63

- Surface Mining--In surface mining, major advancements in productivity have been attained by the introduction and use of large-scale equipment which is more cost-effective, but it is doubtful that trucks and other surface mining equipment can continue to grow at the same rate in the future. Alternative methods need to be examined for continuing productivity improvement to compensate for rising costs and decreasing ore grades. Research in FY 1978 will be conducted to continue the development of a pit slope caving system that will provide a means of mining low grade ores that are currently uneconomical to recover and to examine alternatives to truck haulage for the movement of ore from the pit. Slope stability, waste disposal, and airblast/ground vibration are also problems and research addressing these problems will be continued.

- In-situ Mining--This extraction method is an attractive alternative for the extraction of valuable minerals from low-grade and small orebodies. It promises reduced capital costs, less development time, and reduced environmental effects. The FY 1978 research efforts will be devoted to extending and applying available technology to demonstrate the feasibility of in-situ mining and to evaluate the cost-benefit relationships of the methods compared with conventional mining. Both in-situ leaching (of copper and uranium) and hydraulic borehole mining of uranium will be tested in full-scale field experiments in cooperation with industry.

- Pre-mining Studies--Because of the capital-intensive nature of modern mining, pre-mining investigations must confirm that the exploratory work justifies development and must enable accurate decisions (which have long-term consequences and are nearly irrevocable) to be made. To extend the data upon which predevelopment planning is done and provide this information in a more efficient and less costly manner, research will be aimed at improving core drilling technology and at developing borehole probes that can measure the desired in-place properties and ultimately reduce core drilling requirements. During FY 1978 pre-mine planning criteria and various alternatives for copper-nickel mining in northeastern Minnesota will be developed in conjunction with the State of Minnesota and the mining industry in order to establish the feasibility of developing these important resources.

- Explosives--Recent public hearings on revised explosive standards for metal and nonmetal mining, together with insight on new proposed standards for both coal and non-coal mining, have emphasized the need for additional research on the hazards of explosives and blasting agents related to their movement and storage on mine property. Needed research involves the fire hazards of blasting agents, the sensitivity of both explosives and blasting agents to massive impacts, and the potential blast hazards of explosive materials stored above and below ground. Work in this area is aimed at developing laboratory methods for predicting whether a particular blasting agent will detonate when involved in transport or storage fires. Large-scale fire trials on various blasting agent compositions, which are necessary to validate the laboratory tests, will be conducted in cooperation with the Canadian Department of Energy, Mines and Resources. The sensitivity of many explosive materials to massive impacts is not known. Efforts in FY 1978 will be directed at establishing impact scaling laws for insensitive explosives and blasting agents using the large-scale air gun technique currently being employed to investigate the explosive properties of cavitated liquids.

  Regulations pertaining to the safe storage of explosives in underground mines are in the process of being developed by MESA. The potential blast hazards of explosives stored underground are not known. Information in this area is urgently needed for the development of storage regulations

based on scientific principles. Additional emphasis will be placed on the development of the "underwater sphere test" to the point where it can be used to define parameters such as the critical mass and the minimum energy required for the detonation of any explosive material.

Benefits

Potential benefits from implementation of the Advancing Metal and Nonmetal Mining Technology subactivity include:

- Reduced costs and improved efficiency in mining underground massive deposits by development of improved secondary breakage methods and improved understanding of caving phenomenology.
- Improved productivity and recovery rates in underground bedded deposits by development of continuous mining systems.
- Increased productivity in deep vein mines by development of improved materials handling systems and increased mechanization.
- Improved design capabilities for tailings ponds to minimize environmental problems.
- Improved capability to mine low-grade surface deposits by development of a pit-slope caving system and development of alternative materials handling systems.

Constraints

The major constraint is the capital-intensive, high risk nature of mining ventures. Quick adoption of successful technological advances is often difficult for individual mining and equipment companies because of their heavy investment in current equipment and the even greater risk of trying new techniques.

Program Effectiveness

The effectiveness of the program is measured ultimately by the degree to which the research results are adopted by the mining industry. The true effectiveness of some projects is often not known for several years after completion of the research. Consequently, it is necessary to monitor the effectiveness of technology transfer activities as well as the progress of current research and development.

Effectiveness measures are strived for in the early stages of technologic development by assessing and evaluating the need for specific improvements, assessing alternative approaches, determining the performance criteria that must be achieved to provide a practical solution to the problem and by assessing the potential benefits to the industry. For example, in FY 1976, a study was completed that defines the industry's needs for in-situ borehole assaying probes, evaluates existing technology's capabilities to meet those needs and recommends the most effective course for future research. The results of this study are guiding the present and future research in this area. A study now in progress will define the needs of the mining industry for portable underground crushers, develop the performance specifications, estimate the potential benefits and provide the guidance for developing a practical, cost-effective system that will be fabricated and demonstrated in FY 1977 and FY 1978.

In the development stage of the research effort, effectiveness is maintained by monitoring the progress of the work versus objectives and by reassessing as necessary the need for and potential benefits of the effort. Projects, initiated in FY 1976, will continue through FY 1978 and beyond to continually assess the state-of-the-art, identify technological problems, examine alternatives, estimate future trends and recommend the most effective course of action.

Examples of Recent Accomplishments

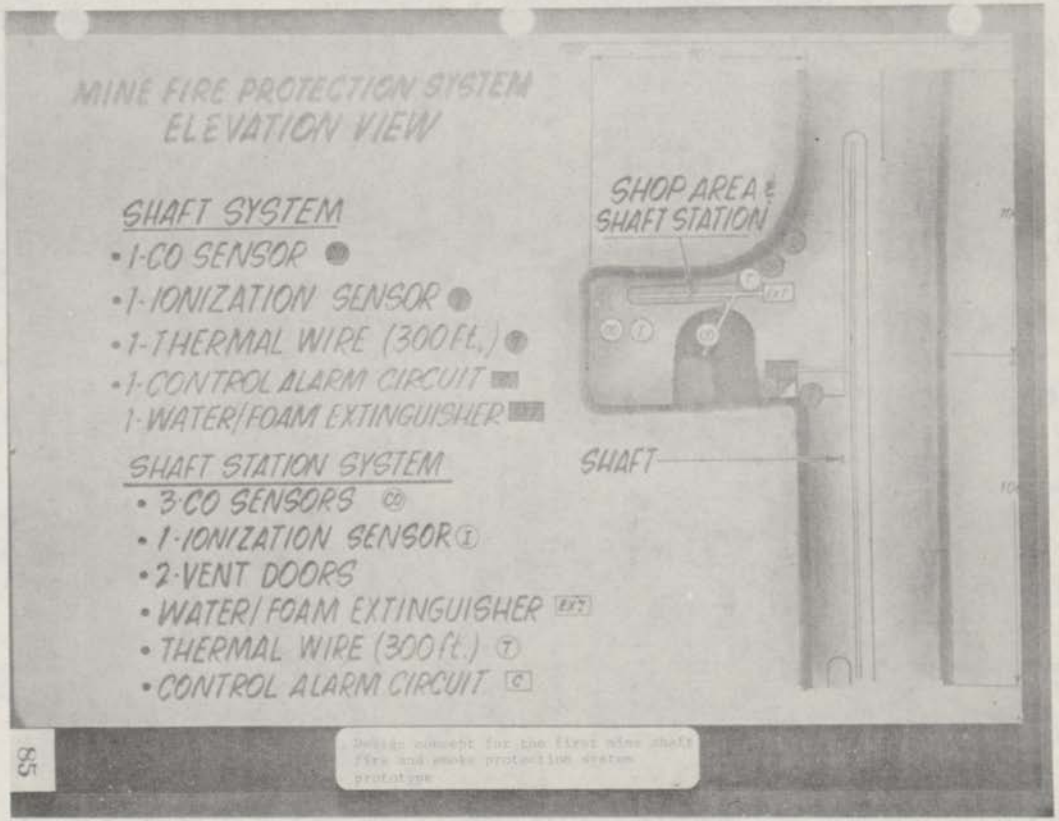
Coal Mine Health and Safety Research:

The following ground control research technology is in mine use or is available for industry use: A geophysical system, to detect hazards to mining before coal extraction, has been developed which uses simple seismic techniques to accurately locate these features. Underground, a portable prototype ultrasonic roof fall warning indicator was developed and has proved reliable enough that now an immediate hazard warning system is available for extensive field trials. A design manual for laying out partial extraction mining systems was completed and represents a major step in providing mine planners with a comprehensive set of guidelines for designing safe yet efficient operations. Guidelines for mining near surface bodies of water were established, surface blasting criteria in relation to underground safety were established, and techniques for predicting coal bumps and outbursts demonstrated. Several devices to directly indicate proper roof bolt tensions were developed, one of which allows anyone underground to visually see if a bolt is above or below established levels of loading.

Methane control technology available to industry includes the following: In removing methane from the Pittsburgh coalbed in advance of mining, the feasibility of using air shafts sunk ahead of their need for ventilating a mine has been established. After three years of degasification through five holes drilled radially into the coalbed from the bottom of such a shaft at the Federal No. 2 Mine, more than 800 million cubic feet of gas has been drained from the coal bed. In the set of headings being advanced from the mine toward the shaft, methane emission at the face has decreased from 200 cubic feet per minute when 3500 feet from the shaft to 60 cubic feet per minute when 700 feet from the shaft. A study of methane emissions from an advancing mine section in the Pittsburgh coalbed showed that the increase in emissions was directly related to the length of rib exposed to virgin coal. A similar correlation was found at a newly opened mine in the Beckley coalbed. A study of the influence of geologic factors on methane in the Beckley coalbed indicated that strata above and below the coalbed may add to methane emissions during mining, corroborated the theory that methane content increases with depth of coalbed, and concluded that the irregular thickness and distribution of coal and the irregular structure of the coalbed may hamper attempts to remove methane from the coal. A prototype methane monitor that includes a "universal" power supply with battery standby power and pumped sampling was developed and demonstrated. The pump at the sample head permits use of a gravitational dust separator and also allows sample gas to be transported to the machine operator's position for 20-minute gas checks with an independent methanometer.

Ventilation technology available to industry results from the following: A low-speed wind tunnel using a laser anemometry method as the reference velocity was completed for the Bureau of Mines by the National Bureau of Standards. This more precise low velocity measurement technique now makes it possible to check the low (20-100 ft/min) performance of vane anemometers and is used for calibration of vane anemometors employed by the MESA Ventilation Group. A new type of brattice which offers reduced weight, leakage, and installation time was developed for use in sealing mine passages. Preliminary tests of this "self-sealing brattice," indicate that it is a workable concept and may be useful during coal mine rescue and recovery operations.

Fire and Explosion technology was advanced by the following projects, all of which require additional work and anticipated benefits are still downstream. The system for remote sealing of mine fires, incorporating an inert gas generator for fly ash transport and a foam topping for final sealing, is nearing completion. Early fire detection is a prerequisite to successful underground fire control. Laboratory testing of a prototype incipient fire detector established that the prototype can classify the average particle diameters of preignition products from


MINE FIRE PROTECTION SYSTEM
ELEVATION VIEW
SHAFT SYSTEM
• 1-CO SENSOR
• 1-IONIZATION SENSOR
• 1-THERMAL WIRE (300 ft.)
• 1-CONTROL ALARM CIRCUIT
1-WATER/FOAM EXTINGUISHER
SHAFT STATION SYSTEM
• 3-CO SENSORS
• 1-IONIZATION SENSOR
• 2-VENT DOORS
• WATER/FOAM EXTINGUISHER
• THERMAL WIRE (300 ft.)
• CONTROL ALARM CIRCUIT
SHOP AREA & SHAFT STATION
SHAFT
85
Design concept for the first mine shaft fire and smoke protection system prototype

representative mine combustibles. Six third generation detection units have been built for further testing of this promising detection device. Development of an understanding of mine fires and mine fire extinguishment continues.

Industrial Hazards technology available to industry includes the following: Lighting of both continuous-miner and longwall sections in low-coal mines to the level required by the standards was achieved with state-of-the-art fluorescent mine illumination hardware. This demonstrated some of the technology that can be used by mine operators to meet the regulations for underground illumination. A fluorescent lighting system for a longwall operation was designed, installed, and evaluated for several months. The work demonstrated a lighting system that was approved for use in Pennsylvania and can be adapted to the majority of longwall operations in the United States to enable the operators to comply with the underground mine lighting regulations. A relatively inexpensive portable light source was developed for calibration of various reflected and incident light photometers. This device meets the needs of industry and government for a means to calibrate in the field the photometers used in mine safety work. A power supply was developed that can be driven by a hydraulic, pneumatic, or electric motor to furnish 240 watts at 12 volts dc. A means is thus available to industry for lighting diesel-, battery-, and air-powered machinery when a suitable source of electric power is not readily available. The reliability of power supplies to operate fluorescent and mercury-vapor lighting systems from 300 volt dc mine power has been improved so that three models are now available that can be expected to operate at least a year without problems.

Two ground bed monitors developed by West Virginia University, under Bureau grant, have been working successfully for about three months. The continuous ground bed monitor detected a partial failure of the safety ground bed it was monitoring. The modular ground wire monitor has been performing successfully in a mine environment where the commercially available monitor supplied with the power center failed to do so. Two novel explosion-proof electrical enclosures, a control case and a connection box, have been fabricated for use on a continuous mining machine. The enclosures, which incorporate new quick-opening features, stuffing boxes and pressure venting have passed explosion testing by MESA.

Mine Rescue and Survival Technology available to industry resulted from the following: Further evaluation of the modified trapped-miner seismic location system showed that its performance is superior to that of the present seismic system. Seismic field tests by Pennsylvania State University, under a Bureau grant, have demonstrated that a new geophone subarray will produce a larger signal-to-noise ratio than the present seismic system subarray. Experimental results, under a variety of conditions, have also shown good agreement with theoretical predictions. Several borehole probes for locating trapped-miners were demonstrated to MESA personnel and two microphone probes were delivered to them.

Respirable Dust Technology available to industry includes the following: A deep-cutting continuous miner was tested in a coal mine to determine the effect of depth of cut, bit spacing and rotational speed on the generation of airborne respirable dust. The machine delivers 450 horsepower to 5-inch long cutting bits on the 10.5-foot long, 3-foot diameter head. Tests at Eastern Associated Coal Corporation's Joanne Mine at Rachel, West Virginia involved three rotary speeds with various cutting depths. The contractor reported 9 times more airborne respirable dust at the operator's position when using 1-inch depth of cut with 51 rpm than when using 3.5 inch depth of cut with 9 rpm. Full production tests of about six months duration are planned to confirm these dramatic results.

A secondary exhaust ventilation system was mounted on the bridge conveyor of a Jeffrey 100L auger miner at the Lens Creek mine of Southern Appalachian Coal Co. The capacity of the system was 2,000 cfm. Use of the secondary ventilation system reduced the average respirable dust concentration at the high risk occupation from

Lee-Norse
Hardhead
UNITED STATES
BUREAU OF MINES
87

3.2 mg/m^3 to 1.5 mg/m^3. Two different types of dust collectors were installed on Eickhoff and Sagem longwall shearers at two mines of Eastern Associated Coal Corp. In both cases dust reductions of about 50 percent were achieved at typical personnel locations with the dust collectors in operation.

Two field studies were conducted in coal mines to determine the role of water sprays in dust control on continuous miners. Much more dust was found to form during the sump than during the shear or loading operations. Water sprays mounted under the boom of the continuous miner were usually more effective than top-mounted sprays.

A laboratory and field investigation was carried out by Eastern Associated Coal Corp. to determine the reproducibility of respirable dust samplers and to determine the feasibility of area rather than personal dust sampling. Good agreement was found between dust concentrations measured by a personal sampler worn by a mining machine operator, and dust concentrations measured by personal samplers located at fixed points on the mining machine nearby the operator. Thus the concept of fixed-point or area sampling appears to be viable for the coal mine face area. New technology to control respirable coal mine dust was the subject of Bureau of Mines Technology Transfer seminars held at Pittsburgh and St. Louis in September, 1976. Recent results of the Bureau's respirable dust research programs were presented.

Noise technology now available to industry resulted from the following: In an investigation of alternate methods of drilling for roof bolting operations, wet-head drilling was found to be quieter and faster but more expensive than the comparable operation with the usual pneumatic stoper drill. The sources of noise generated by chutes and screens in coal processing plants were identified, various techniques to reduce this were proposed and the expected noise reductions delineated, and cost-effective noise control measures were recommended. The results provide additional technology to reduce operational noise levels in coal cleaning plants and will assist the coal industry in efforts to comply with the noise regulations of the Coal Mine Health and Safety Act of 1969. Prototype hardware was developed for constructing a portable calibration facility for audio dosimeters. If performance testing shows the accuracy ranges to be acceptable, a prototype calibration system will be built that will be suitable for use in checking and maintaining audio dosimeters used in enforcement of noise regulations.

Research on diesel technology continued on development of methods to reduce pollutants from diesel engines operated underground and to develop adequate emission measurement instrumentation. Michigan Technological University conducted a survey of St. Joe Minerals Brushy Creek Mine, Viburnum, Missouri. Portable instruments were used to measure CO, NO, NO_2, and air velocity. The diesels at this mine are of a different make and use different exhaust conditioning systems from those at White Pine Mine where all the previous data were gathered. Measurement of diesel emissions at the Martin County Mine is completed. A new procedure has been devised for cleaning Chromasorb 102 odor absorption traps with solvents to reduce blank values. A comparison of NO^2, mean concentrations obtained by stainlength tubes and by Palmes' dosimeters at New York University, revealed a high bias for the latter. Two tracer compounds--Freon 22 (CF_2 and Cl_2) and aceton--were used to calibrate instruments for modeling of simulated diesel emissions in the Safety Research coal mine, employing the Wilks Miran I (infrared) and the H-NU (photoionization) instruments, respectively. Modeling experiments were conducted jointly by PMSRC and Penn State employing the tube bundle system for sampling.

The final report is in preparation on a recently completed computer-based model for estimating the tangible costs of injuries and deaths from work-related accidents in underground bituminous coal mines. The model summarizes costs to the mining companies, costs to the miner and his family, and costs to society. Costs in these categories can be subgrouped by mining activity at the time of the accident and type of accident by degree of injury and summaries can be compiled by mining activity, regular job title, nature of injury, mining method, type of an accident and degree of injury. Knowledge of the cost of accidents could serve as an incentive to improve mine safety and the model can be used to determine trends in accidents costs and to evaluate the effectiveness of new safety programs/procedures.

Metal and Nonmetal Mine Health and Safety Research:

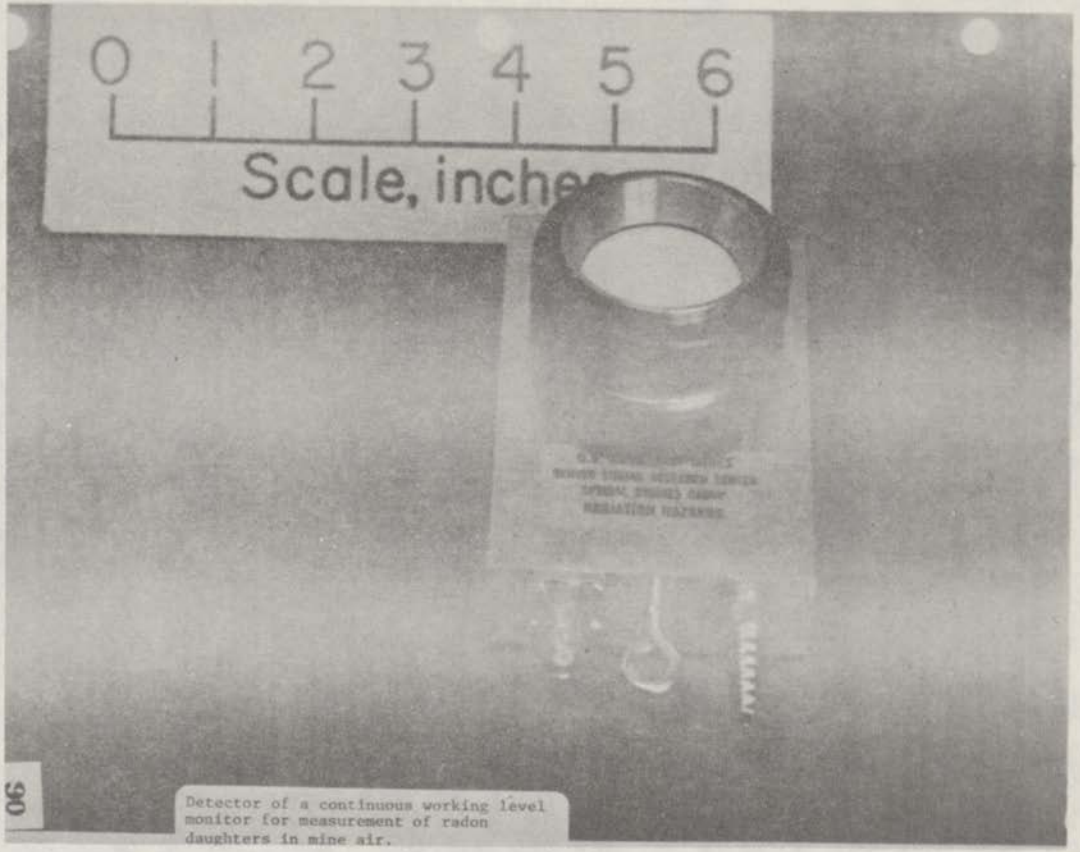
Ground Control research contributed the following technology. A rock burst prediction system using a microseismic method of detection that was demonstrated in deep metal mines resulted in commercial adaptation. The prevention of rockbursts by destressing in advance of mining was successfully demonstrated. Abandoned mine workings were delineated by a geophysical system developed for this purpose. Detection of open pit mine slope failures before initiation was demonstrated by development and trials of a microseismic locator system which successfully predicted two slides well in advance of movement. Preparations for improving the fire retardant and fungicidal decay capabilities of wooden mine timbers were determined.

Under Fires and Explosions research a shaft protection system was developed and was tested in the Union Carbide Pine Creek Mine in California. The objective of such systems is early fire detection and remote control and suppression of the fire in areas which are critical to orderly mine evacuation. The design of the system is such that control is monitored from a surface remote control panel. This technology has attracted industry-wide attention and commercial systems are now under consideration for mine installation.

Underground communications technology is now available to help meet the need for adequate underground communications. The underground wireless system at the Grace Mine of Bethlehem Steel, which was developed through Bureau sponsored research, continues to provide communications between vehicles and personnel. The hoist communication system, operational since October 1974, continues to provide reliable service. Two of the five underground monitoring stations have been installed and are sending preliminary mine environment data to the surface. Portable propagation measurement equipment was designed to support the Grace Mine contract activity. At the Sunshine Mine, the shaft communications system has been completed; voice communications, slack rope alarming, and shaft inspection communications are operational from the surface to the bottom of the 4,000 foot Jewell shaft and from the collar of No. 10 shaft at 3,100 level to the 5,800 level.

Several versions of a continuous working level monitor to measure radon daughter levels in mines have been designed and tested. The most successful version consists of a beta detector (GM tube) which measures the activity on a filter paper through which a constant air flow is maintained. Tests in the laboratory and in the Bureau's Twilight experimental mine show that this unit can provide accurate working level measurements and that it can also serve as a part of an alarm system to signal the presence of excessive levels of radon daughters in uranium mine atmospheres. Two of these detectors are on loan to the National Park Service to monitor working levels in Park Service caves. MESA is also using this instrument to monitor radiation levels in mines. Downstream benefits to industry are seen in the following longer term developments. Three mine tests were performed under a U.S. - Canadian umbrella agreement. The first measured radon concentration in active stopes and the second measured radon from stopes backfilled with uranium mill tailings. Both these mine tests were in Canadian mines. The third test, in the Bureau's Twilight experimental mine, evaluated the effectiveness of three radon control measures, (1) a wall coating sprayed two years previously, (2) overpressuring a bulkheaded chamber, and (3) a pressure - equalization tube to the surface. The coating (a two-part, water - based epoxy) initially reduced radon emanation by about 75 percent. After two years this effectiveness was essentially unchanged. Overpressurization of a coated chamber reduced radon emanation by nearly 85 percent. The pressure - equalization tube maintained the uncoated chamber at surface barometric pressure, thus reducing the radon concentration by nearly 40 percent.

Field dust surveys were made at ten industrial sand processing mills under cooperative agreements between the Bureau and member companies of the National Industrial Sand Association. Results indicated a need for improved dust control technology for the processing and final bagging of the fine ground silica materials. A local ventilation technique involving a shrouding around the filling bag reduced dust



90

Detector of a continuous working level monitor for measurement of radon daughters in mine air.

emission from the bag filling operation by more than 90 percent. The Bureau of Mines is providing partial funding for an environmental field health survey of approximately 22 metal and nonmetal mines. Nine mines have been surveyed to measure concentrations of quartz and diesel emission contaminants in the mine air. Results of this study will be correlated with results of medical studies being conducted by NIOSH at the same mines.

A Getman dispatch wagon was retrofitted with noise control devices and thereby quieted from 101 to 87 dbA. This demonstrated that the techniques outlined in a previous study on noise of diesel-powered underground mining equipment can reduce the noise levels below 90 dbA on a specific type of equipment economically, that the technical capability of quieting a small diesel-powered vehicle can be acquired by the manufacturer, and that mine personnel react favorably to quieted machines.

Instrumentation development for measurement of toxic gases has produced a highly successful handheld CO detector and this instrumentation technology is now being used for the development of handheld NO and NO_2 detectors. The miniature immobilized-electrolyte fuel cell sensor is also being utilized for ruggedized ac and permissible battery-powered early warning belt fire alarms that are being designed for MESA to their specifications. Field performance of the four prototype handheld indicating CO detectors has been excellent, with no corrections to zero ever required and a calibration stability within 5 percent of full scale for periods of one week to one month. NO_2 passive personal samplers are under field test by MESA. The measuring instruments are being tested in mines using diesels.

Several types of inflatable stoppings were tested in producing noncoal mines and found to be acceptable for some day-to-day mine applications. They can be used underground as mine air barriers during production only if located at safe distances from blasting areas and if some minimal leakage past the stoppings is either acceptable or desirable. A new type of stopping has been developed for use in mines near blasting areas where conventional stoppings are damaged severely. Tests of this "quick-fix blowout stopping" show that it is an efficient air barrier when properly installed, is easier to install and maintain than conventional fabric stoppings and wooden bulkheads, and is less susceptible to blast damage because of the configuration but if blown down by blast forces can be easily reinstalled.

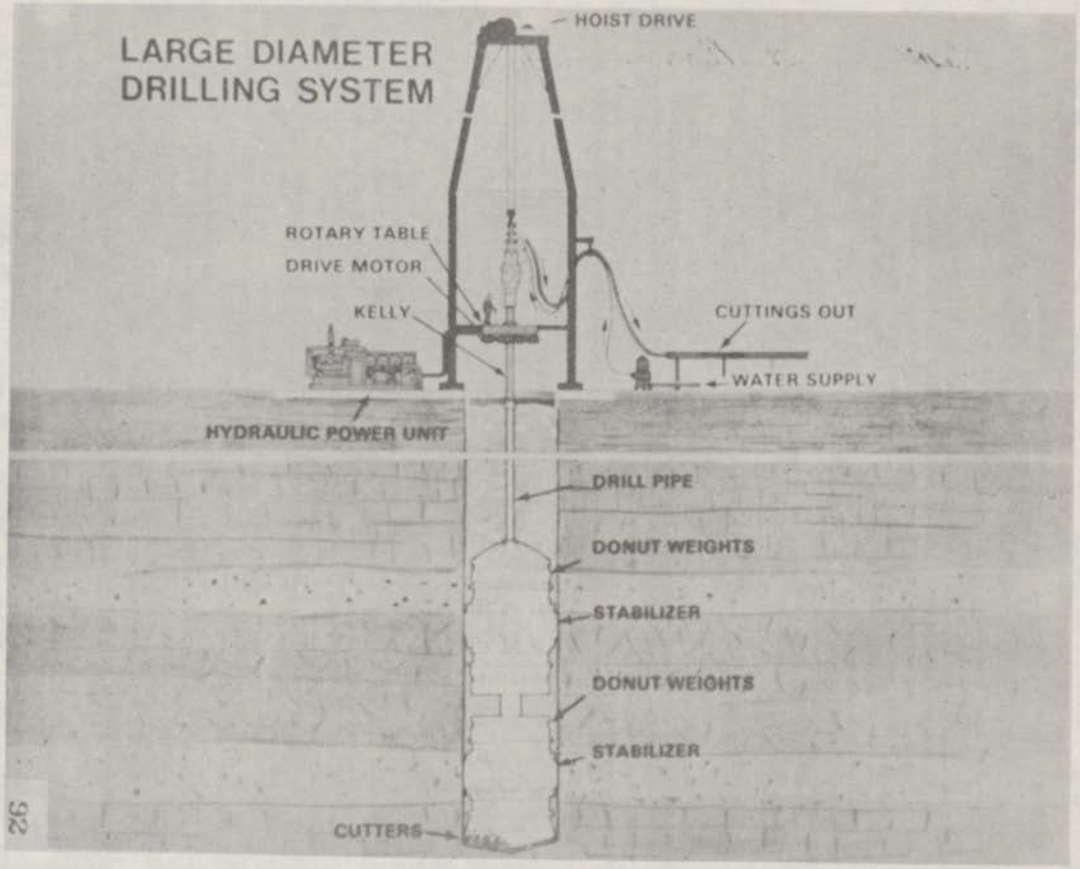
Advancing Coal Mining Technology:

Since its inception in FY 1974 significant strides have been made in achieving the overall program goals and the accomplishment of key objectives related to the program of work. More recently these include the completion of key problem analysis and definition studies, the initiation and/or completion of significant system and equipment design and development efforts; the completion of major demonstrations and the initiation of others.

One of the key elements in the Bureau's mine development research program is shaft sinking. This is a pacing item in opening new deep mines and, because it is costly, has a pervasive and enduring effect on overall mine economics. The design of a Blind Shaft Borer has been completed. The project was undertaken to accelerate shaft construction through mechanization. The object is to provide a system that will construct a 24 ft. diameter shaft at a rate of 25 ft./day. The conventional method utilized today is only capable of 60 feet per month.

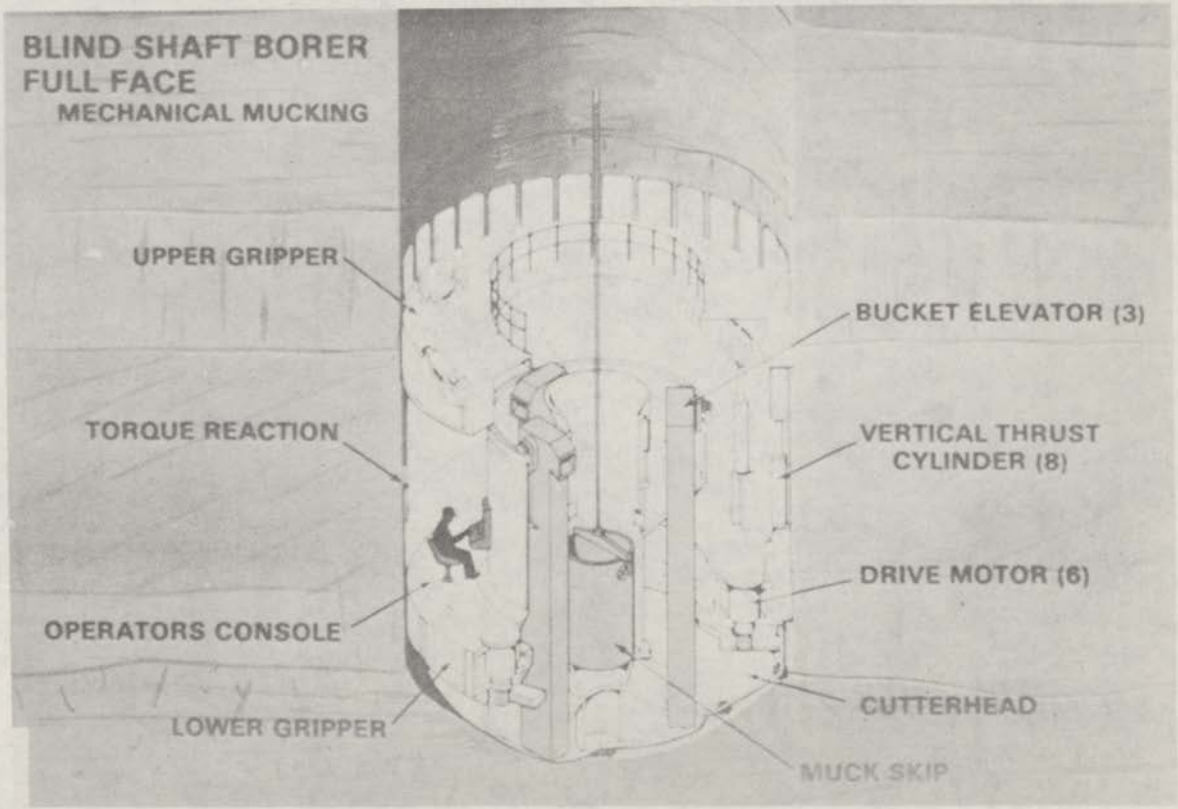
Raise boring is an efficient shaft excavation technique. The lining process, however, is quite hazardous, time consuming and costly. A remote controlled shotcrete shaft lining system has been developed to reduce these constraints. A demonstration of the system at the Peabody Star Mine, Evansville, Kentucky was successfully in lining a ventilation shaft at rates approaching 60 ft./day, well in excess of the present capability of 25 ft./day. It also eliminated the requirement of having men in the shaft during the lining operation.

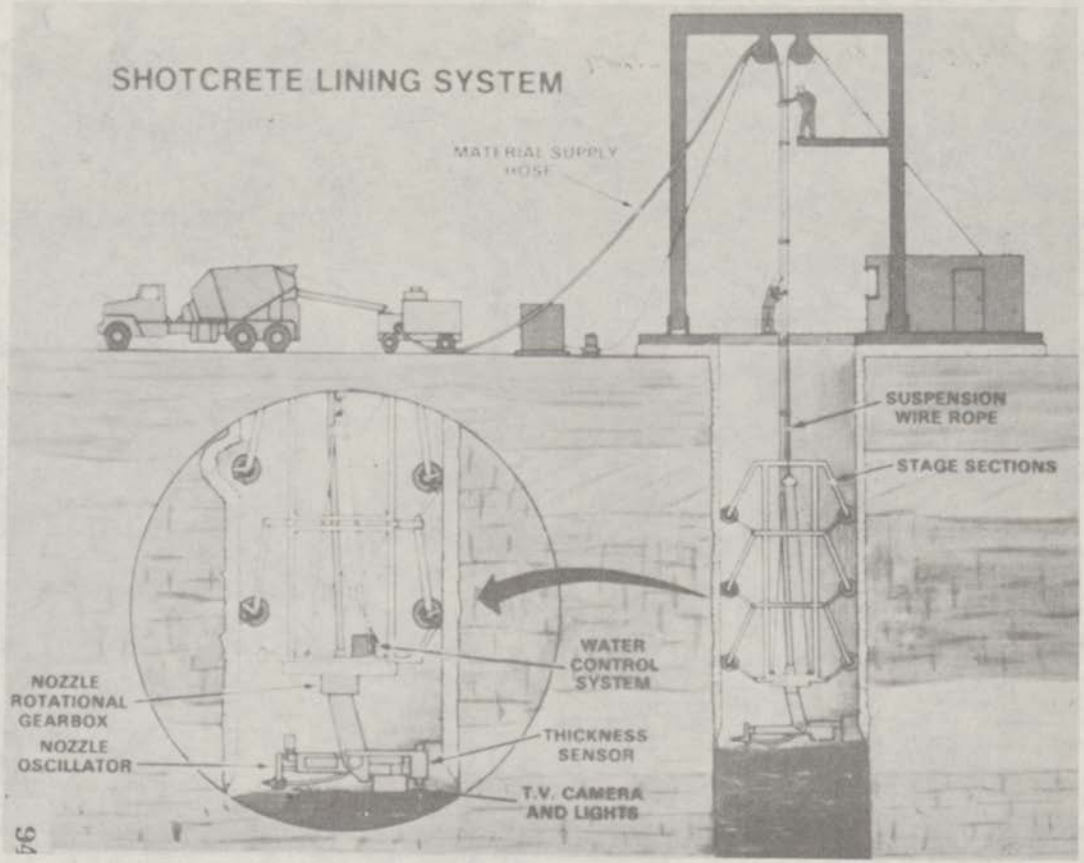
The British developed DOSCO In-Seam Miner is designed to allow for placement of the roof support immediately behind the face which in turn lends itself to continuous


LARGE DIAMETER
DRILLING SYSTEM
HOIST DRIVE
ROTARY TABLE
DRIVE MOTOR
KELLY
CUTTINGS OUT
WATER SUPPLY
HYDRAULIC POWER UNIT
DRILL PIPE
DONUT WEIGHTS
STABILIZER
DONUT WEIGHTS
STABILIZER
CUTTERS

92

1000


BLIND SHAFT BORER
FULL FACE
MECHANICAL MUCKING
UPPER GRIPPER
TORQUE REACTION
OPERATORS CONSOLE
LOWER GRIPPER
BUCKET ELEVATOR (3)
VERTICAL THRUST CYLINDER (8)
DRIVE MOTOR (6)
CUTTERHEAD
MUCK SKIP


SHOTCRETE LINING SYSTEM
MATERIAL SUPPLY HOSE
SUSPENSION WIRE ROPE
STAGE SECTIONS
WATER CONTROL SYSTEM
NOZZLE ROTATIONAL GEARBOX
NOZZLE OSCILLATOR
THICKNESS SENSOR
T.V. CAMERA AND LIGHTS

forward advancement. To better evaluate the potential of this machine for U.S. mining conditions and to verify the apparent advantages in terms of noise, dust emissions, reliability, and maintainability a demonstration has been initiated at Allied Chemical's Harewood Mine, Longacre, West Virginia.

All coal contains large quantities of methane which becomes a major hazard when released to the mine atmosphere during mining. Drainage of the methane prior to the start of the mining operation makes mining the coalbeds safer, increases mine productivity, and provide additional supply of low-cost fuel. Two demonstrations have been initiated to determine the feasibility of recovering this methane in commercial grade quality and quantity. The first demonstration is at the yet unopened Emerald Mine in the Pittsburgh Coalbed. It involves foam generated by high pressure nitrogen gas. The demonstration has been highly successful. Daily production from the seven wells ranges from 4,500 to more than 120,000 cubic feet even though the dewatering is not complete. The second method, utilizing directional hole drilling has been initiated at the Freeport coalbed. A borehole was drilled from the surface to intercept the coalbed at a vertical depth of about 930 feet and continued horizontally about 300 feet for a total hole lenght of 1753 feet. Drilling was discontinued because the coalbed at the site turned out to be thin and erratic, rather than six feet thick as expected. The test did show, however, that the technique of directional hole drilling for methane recovery is feasible and economical. Other trials are being planned.

The biggest obstacle to producing a design for an automated longwall face lies in an inability to accurately steer the mining machine as it passes along the coal face. The most critical part of the problem is the development of a reliable means for detecting the interface between the coal and the roof and floor rock. Work in Europe has concentrated on the development of nucleonic means for sensing the interface with only limited success and very limited application. Work in the USA has indicated four other means whereby the interface might be detected. Development of the four alternative systems has been initiated and continued work on the nucleonic system is being undertaken, together with the development of equipment capable of accepting the output and translating this into machine control.

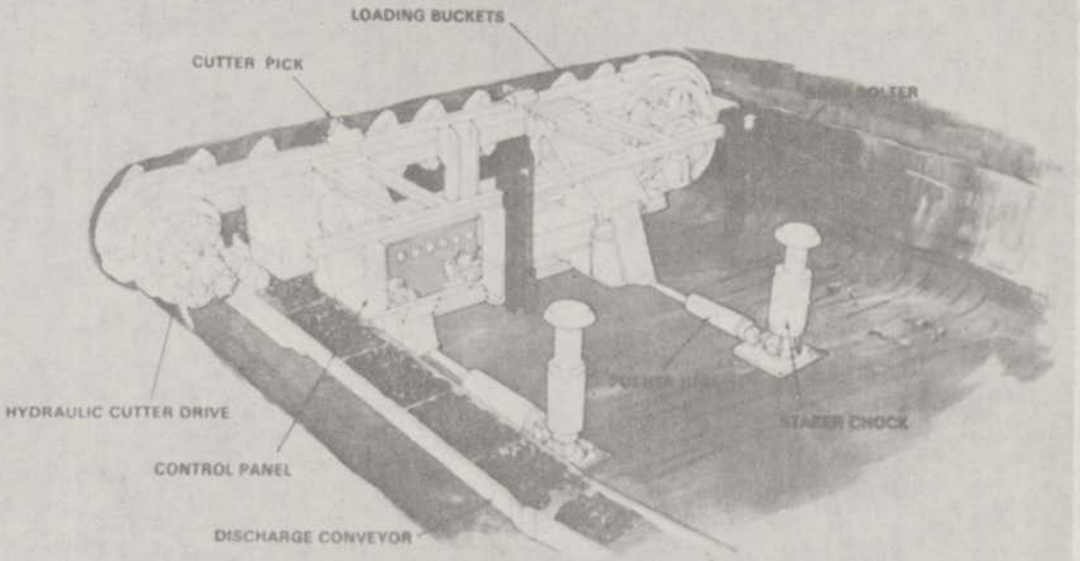
There has been considerable uncertainty about the applicability of longwall mining to U.S. geological conditions. For example, in Illinois, 9 industry attempts to apply this technology have failed. A tenth longwall has been started under a cost-shared contract between a coal mining company and the Bureau using a new design of longwall shield support. The longwall is now in operation and had produced an average of 3600 tons per day in the first three months. No unexpected problems have been encountered and the outlook is promising.

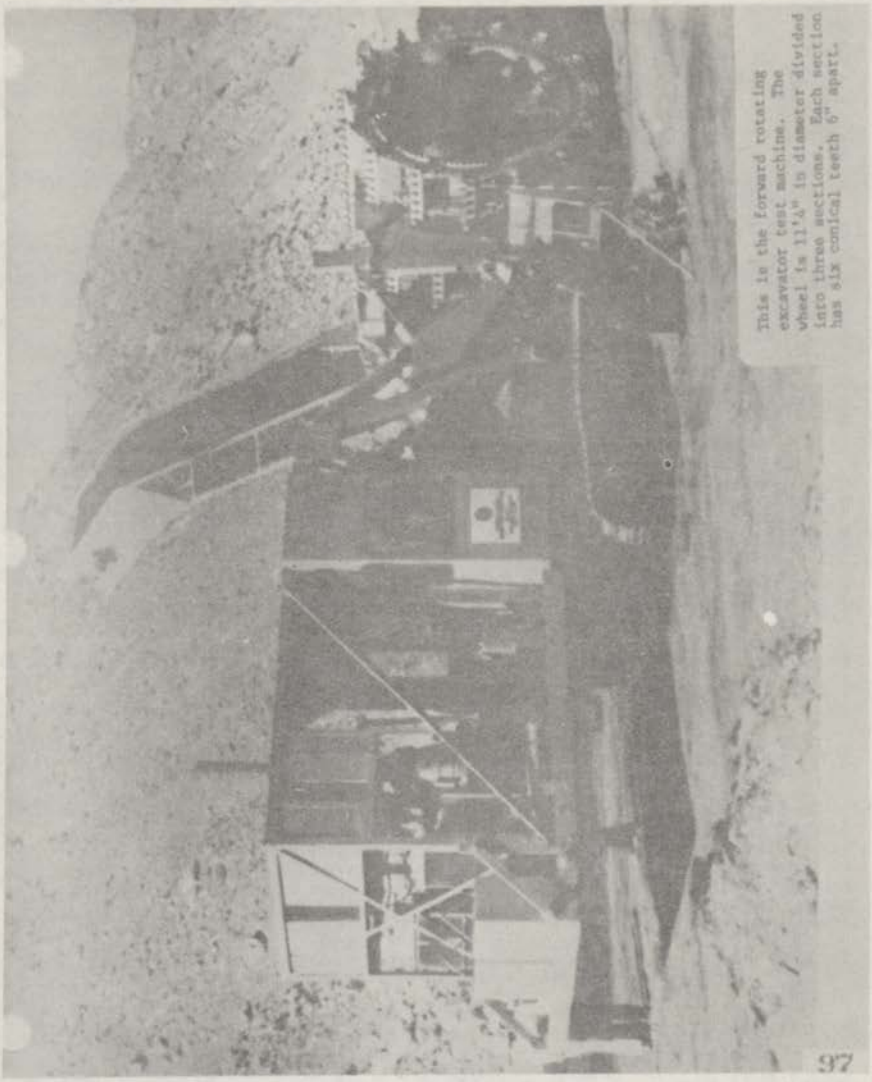
Because of success in Europe in working in previously unworkable roof conditions with shield-type supports, a demonstration was initiated to determine the feasibility of applying such supports in the U.S. The York Canyon mine in New Mexico was chosen as the demonstration site partly because the 10 ft. seam would be the thickest seam worked by longwall methods in the U.S. The first panel was successfully worked with no serious roof control problems and the equipment was transferred to a second panel which is now working satisfactorily.

In the eastern U.S., 49 billion tons or 29 percent of the coal reserve base minable by underground methods lies in seams less than 42 inches. A wealth of experience exists within the USA for mining thin seams by room and pillar methods but very little for longwall which offers advantages in improved resource recovery, safety and productivity. A longwall shearer and powered support will be demonstrated in a Kentucky coal mine in a seam varying in thickness between 36 inches and 40 inches. The coal mine operator has been chosen and site selection is underway.

Coal has been successfully mined at various times using high pressure water jets. An attempt is being made to incorporate the jet cutting principle into a longwall shearer in a typical longwall system. Trials at a surface site utilizing prototype equipment have indicated that this method of cutting is feasible. Testing is continuing with an improved model.

IN SEAM HEADING MACHINE





This is the forward rotating excavator test machine. The wheel is 11'4" in diameter divided into three sections. Each section has six conical teeth 6" apart.

97

83-561 O - 77 - 64

Current technology limits the resource recovery of thick seam western coal to approximately 30 percent. An engineering evaluation of multilift longwall mining in the thick seam western coal beds is nearing completion. The preliminary results indicate that this type of mining is feasible and competitive with room and pillar methods and will result in a resource recovery of 60 percent. Based on this information plans for a cost-shared in-mine demonstration are being prepared.

A detailed cost and feasibility analysis effort was undertaken to determine the applicability of longwall-caving mining to 20 feet and thicker western coal seams. As practiced in European countries, the method was labor intensive. Preliminary results indicate that extensive equipment development and modification will have to be undertaken before the method can be adopted by the U.S. coal industry.

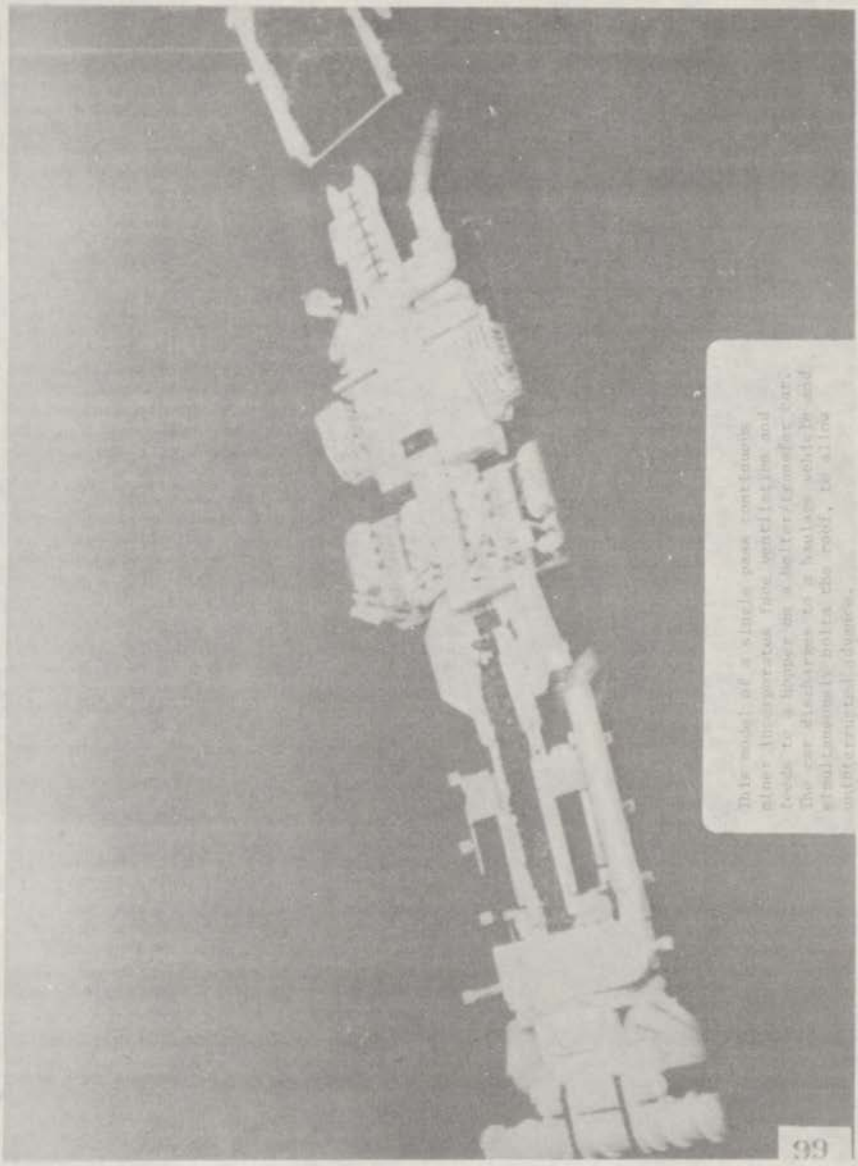
Major efforts have been undertaken to improve the operational capabilities of continuous mining machines, to develop an automated remote controlled continuous miner, and to better predict and control the environmental effects of the mining operation. Fabrication and assembly of an improved continuous miner is nearing completion. This machine with integral roof support, onboard roof bolter, and self-advancing ventilation represents a significant step towards realizing the fullest capability of the continuous miner concept. A demonstration to verify the design capabilities is scheduled for early 1977.

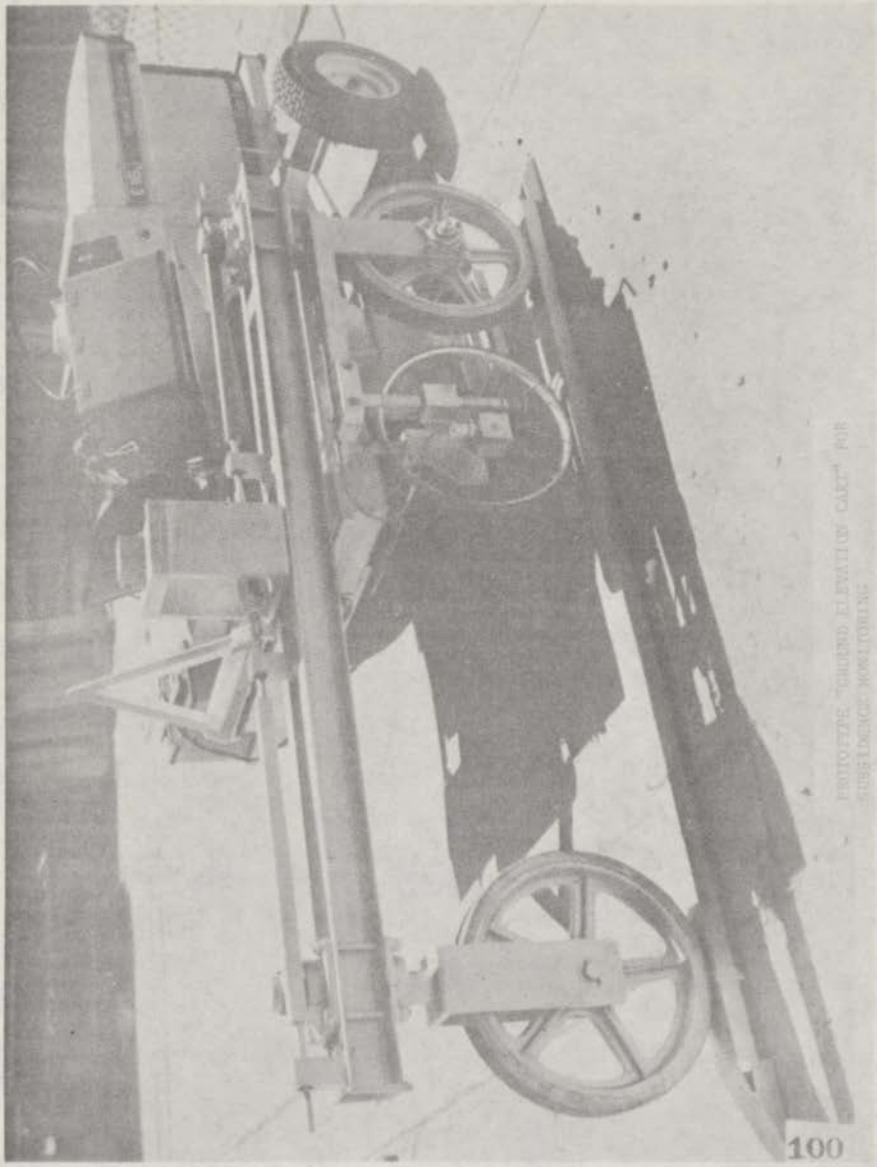
Permanent roof support (drilling and bolting) in underground coal mines in widely recognized as a hazardous and time-consuming element in the production cycle. In an attempt to solve both the hazard and delay problems, three contracts were awarded for miner/bolter systems. Automated drill/bolt modules will install less-than-seam height bolts. These modules will be mounted on the continuous miner or on a transfer unit immediately behind the miner. These units will allow up to 100 ft. of continuous advance in contrast to the 20 feet now permitted. Prototype modules are being assembled and laboratory tested. Machine fabrication and the first underground tests are scheduled for FY 1978.

A prototype model of a "ground elevation cart" has been fabricated and field tested. It will be used to establish the rate and geometric pattern of gradual subsidence in an area well in advance of damaging displacement. A subsidence detection system for underground areas has been developed. A multi-element geophysical probe which can be inserted into small diameter drill holes and used above or below the water table for subsurface investigations is being fabricated. This probe will expedite the collection and interpretation of detailed subsurface data needed for mine design in subsidence prone areas.

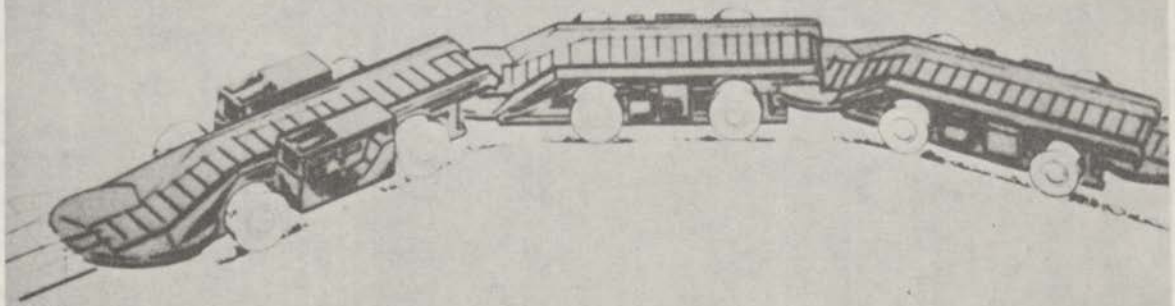
The thrust of the surface coal mining program has been directed at the development of surface mining and reclamation systems and the development and demonstration of new or modified equipment. In general the problems associated with surface coal mining stem from the lack of a cost effective systematic approach for removing the overburden, mining the coal and reclaming the land within the limits of environmental statutory requirements. To date the program has developed several concepts designed around the utilization of low wall conveyors for overburden haulage, parting removal and stowage for multiple seam operation, and conveyor overburden haulage for mountaintop removal and head-of-hollow fill. The present plans call for demonstration of these system concepts to determine their economic and environmental effectiveness. The remainder of the effort has been directed at demonstrating new and improved prototype equipment. The more significant items demonstrated include the dozer mounted vee blades and a mobile, low cost, high rate production machine.

The advanced mining systems program has emphasized the development and demonstration of new and innovative systems. The most recent accomplishment has been the development of a borehole mining system for coal seams where underground and open pit mining would be impractical because of safety, environmental, or economic factors. The Prototype borehole mining apparatus operates in a 16-inch-diameter borehole drilled from the surface through the coal seam. A unit consisting of a high pressure (4,5000 psi,


99


100

MULTIPLE-UNIT CONTINUOUS
HAULAGE SYSTEM



MINER

200 gpm) waterline, a nozzle, and a slurry pump system is lowered into the hole with the slurry pump at the bottom. The nozzle forms a jet which, when rotated and slowly raised, erodes the coal and forms a slurry. Suction caused by Venturi action draws the slurry into the downhole slurry pump which lifts the slurry to the surface for pipeline transfer to processing facilities. To date, this research prototype has produced coal at the rate of 10 tons per hour from the depth of 90 feet in a pitching coal seam. Further tests are planned to evaluate the cost and technical feasibility of the system.

Coal Preparation:

The two stage flotation process has been developed through the laboratory and mini-plant stage and is now being put to commercial practice. A coal producer has signed a cooperative agreement to install the necessary equipment in a preparation plant for the two stage flotation process which will be used in recovering and cleaning fine coal.

A laboratory process for pelletizing and drying lignite shows great promise in increasing lignite utilization. The high moisture content of lignite causes severe handling problems in the form of winter freeze-ups, storage problems because of spontaneous combustion and represents shipping problems because of high transportation costs associated with a low value fuel. A commercial pelletizing and drying process would eliminate or minimize these problems so lignite could become a major source of utility fuel throughout the North Central States.

Dewatering of fine coal from processing plants is receiving considerable attention because as the coal is ground to fine sizes in achieving pyrite and ash release, the surface moisture content increases rapidly. A process using surfactants permits lowering the surface moisture in a fine coal filter cake from 20 percent to only 10 percent. This reduction will significantly reduce transportation costs and save heat values in burning the coal.

Report of Investigation number 8118 on "Sulfur Reduction Potential of the Coals of the United States" published in 1976, has become the standard reference for coal producers. This report, which summarizes washability tests on 455 samples representative of various producing seams, provides the preliminary data for decisions based on the characteristics of utility coals.

Advancing Oil Shale Mining Technology:

The first comprehensive baseline studies on potential surface, underground, and modified in-situ mining processes have been completed. Several mining systems, detailed mining plans and their respective economics were identified. Industry planners have used the information in formulating their own mine designs. The physical and chemical properties of retorted shale and water quality and quantity data necessary to design a waste management program were obtained. Preliminary surface waste disposal plans were proposed. Studies evaluating hazards associated with dust, fires underground and use of diesels in mines initiated . The site of the eight foot shaft was selected on the basis of the results of core drilling, geophysical measurements, hydrology, and rock mechanics experiments. Drilling will begin in March 1977 and for the first time will allow access to the deep shale.

Advancing Metal and Nonmetal Mining Technology:

A method was developed for computing the stabilizing pressures for an opening in a jointed rock medium, and a simple photogrametric procedure was developed for measuring sizes of caved ore fragments. A method for computing stabilization pressures for excavations in incompetent rock was recently published (RI 8128) and was presented at the 16th Rock Mechanics Symposium.

A recent study accessed the need for portable underground crushers in the mining industry, defined optimum performance and size parameters and recommended a concept to

meet the desired characteristics. The results of this study will be published shortly and will form the basis for developing and testing a portable crusher to improve ore handling in underground mines.

The operation and durability of the critical front-end components of a continuous spiral drill and blast tunnelling machine were successfully demonstrated. The inherent effectiveness and partial shielding characteristics of the spiral blast pattern were confirmed, and adequate control of drilling and loading components was achieved. A workable, although not final, remote explosive loading scheme was demonstrated. A report describing the results to date is ready for publication, and a paper will be presented at the March 1977 meeting of the AIME in Atlanta.

A probabilistic structural analysis program for assessing effects of material variability on probability of opening failure was developed. A general nonlinear material model that can be used to model time-dependent behavior of mine openings in bedded deposits as well as to predict the subsidence of surface strata over longwall panels was developed. Reports on the programs, complete with user's guides and listings, are being prepared for publication.

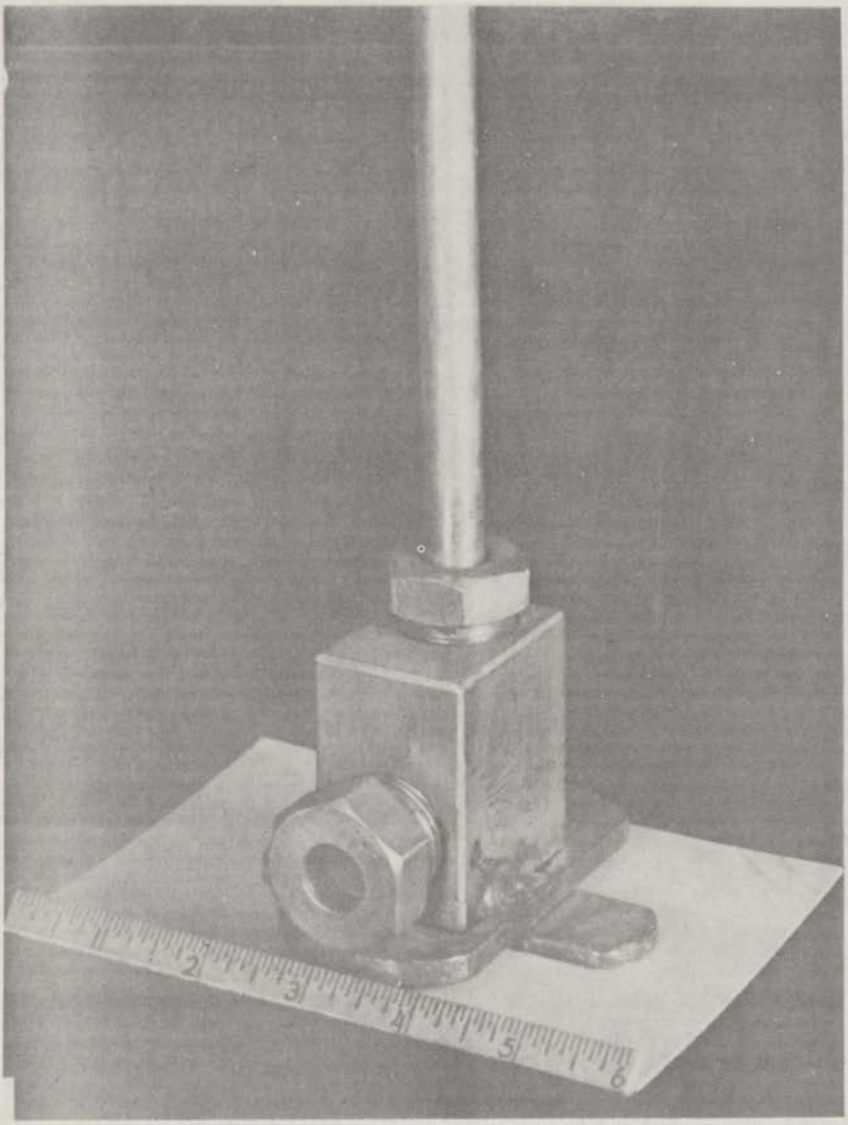
An industrial engineering evaluation of hydraulic sandfill systems in deep, vein-type mines and a time-and-cost analysis of typical cut-and-fill mining cycles were recently completed. Operating costs for stope mining and sandfilling were developed for a series of operating scenarios. A report documenting the findings has been published and is available from the National Technical Information Service.

Large-scale direct shear tests were completed on bulk ore samples with size distribution measurements made to determine ore attrition. The testing provides useful data on the range of "angles of internal friction" of bulk ore materials and will be useful for designing bulk handling and ore storage bins. A report describing the research results is being prepared for publication.

Extensive fieldwork was conducted for the evaluation of airblast instrumentation, measurement methodology and the determination of response and potential damage to residential structures. A field measurement program was conducted in the Chicago area in cooperation with the Illinois Institute of Environmental Quality. Additional blasts were monitored near Chicago in an effort to establish measurement procedures for proposed cooperative fieldwork with the Environmental Protection Agency in its study of noise transfer functions in structures. Results of recent research were published in Report RI 8168 and a paper has been accepted for publication in Sound and Vibration.

Conical blasthole bits were demonstrated to the mining industry by full-scale testing at two operating surface mines. The overall results appear promising. The conical reamer required approximately 14 pct less thrust than a standard tricone at the same drilling rate. At comparable levels of thrust, the conical reamer outdrilled the tricone bit by an average of 20 pct. Bit life of one set of conical reamer cutters was roughly comparable to tricone bits with cutter life of 1,600 to 2,600 feet. A report describing the performance characteristics and economics of the conical reamer bit is in preparation. A prominent drilling equipment supplier has recently started to market the device.

A water jet cutting device was built to perforate the sidewalls of cemented polyvinyl chloride (PVC) cased uranium leaching wells. It was used to perforate schedule 40 PVC casing in the mineralized zones of two wells at the Wyoming Mineral Lamprecht site in Live Oak County, Texas. The perforations were designed to permit the influx of solutions into the wellbore while blocking the ingress of sand. Pumping tests revealed that both wells yielded a discharge of 10 gpm or more of sand-free leach solution, indicating that the water jet perforator is a technical success. A patent application, "A Water Jet Perforator for Uranium Solution Mining Wells," has been filed describing this device. The system will be described in a paper to be presented (and published) at the Conference on Uranium Mining Technology, University of Nevada, Reno, in April 1977.



Water jet nozzle assembly for perforating casing to allow sand-free flow of solutions in uranium leaching wells.

Post leach restoration of ground water quality was achieved at a uranium leaching site in Wyoming by pumping out of all site wells for 3 weeks without injecting anything. Water samples were than taken from the wells at the test site and from the surface and ground waters within 5 miles, just as before leaching. Chemical analysis showed that the ground water quality had been satisfactorily restored. A review of the Bureau's uranium leaching program and results was presented in August 1976 at the Uranium In-Situ Leaching Conference at Vail, Colorado.

A review and assessment of the needs of the mining industry for borehole assaying techniques, prioritization of those needs, and recommendations for research to fill technological gaps were recently completed and serve as the basis for future efforts to improve techniques for delineating ore deposit characteristics. The results of the study have been published and will be available to the public from the National Technical Information Service in the near future.

The Bureau has completed approval testing for MESA on four new permissible explosives. These tests included three water gels and one semigel. This now brings the total of permissible water gels to ten.

Thirty-seven formulations comprised of granular and gelatin dynamites and water gel explosives were studied to determine the effect on the toxic gas production of initiator strength, the type of stemming, and the mixing time of the product gases before measurement. Within experimental limits, there was no correlation with increasing initiator strength. Stemming the gelatin dynamite appeared to have no effect on the nitrogen oxides but results were not conclusive. Water and clay stemming of the water gel decreased the carbon monoxide and nitrogen oxides by about one-fourth to one-half.

3. Mined Land Demonstrations: Fiscal Year 1977, $10,109,000; fiscal year 1978, $4,138,000; decrease of $5,971,000. The decrease consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) -$1,971,000	--	$3,890,000	38	Mined Land Investigations and Demonstrations-Anthracite Area--Reduction in contractual obligations.
(B) -3,000,000	--	--	--	Anthracite Conversion Demonstration Plant-Non-recurring cost for pilot plant construction.
(C) -1,000,000	--	--	--	Mined Land Investigations and Demonstrations-Bituminous Area--Reduction of planned contractual activities.
(D) --	--	248,000	4	Fire Control in Coal Deposits-No Change.
-$5,971,000	--	$4,138,000	42	

Program Description

The Bureau's Mined Land Demonstration activity deals with the conduct of program and project activity directed to the resolution of environmental problems associated with past mining and mineral processing activities. Demonstration projects, studies and other relative inhouse and outside contract enterprises are implemented under specific subactivities such as Mined Land Investigations--Anthracite Area; Mined Land Investigations--Bituminous Area; and Fire Control in Coal Deposits. In addition, the Bureau has responsibility (as agent to the Appalachian Regional Commission) for the administration, engineering, direction and implementation of mined land reclamation projects authorized under Section 205, Public Law 89-4, as amended. Transfer funds are provided to the Bureau for this work which is carried out within the 13-State Appalachian Region, from New York to Mississippi. General program goals are:

- To resolve and correct mine land problems associated with past mining methods and mineral processing that adversely impact on environmental quality.

- To develop new technology and enhance existing methodology for controlling and/or preventing mine subsidence and mine fires; for disposing of and utilizing mine refuse; for reclaiming and vegetating land damage by surface mining and the disposal of mine rock and processing refuse.

A. Mined Land Investigations and Demonstrations-Anthracite Area

Fiscal Year 1977, $5,861,000; Fiscal Year 1978, $3,890,000; decrease of $1,971,000.

Major Program Change

(1)	Mined Land Demonstrations, Anthracite Area	-$1,971,000; total $3,890,000 0 positions; total 38 positions

Proposal. The decrease reflects a reduced work level for onsite project contract work to demonstrate state-of-the art in mine subsidence activities, for anthracite coal recovery, for abandoned mine map repository work, and for other anthracite mined land demonstration/study activities.

Justification. It is believed that the thrust of demonstration projects to prove out technology development can be carried out at a lower funding level.

Cost Factors. The decrease of $1,971,000 is for contractual services.

Subactivity Description

Long-Term Goals

- To develop program and project opportunities and concepts that can be used to eliminate or minimize current environmental problems resulting from past anthracite mining/processing activities.
- To improve mined land reclamation/restoration technology through the application of institutional grants.
- To prevent or minimize mine subsidence; and mine fires; to improve mine waste/refuse disposal, extinguishment or utilization; surface land restoration and revegetation; control of mine water pollution from acid, sedimentation, etc.

Fiscal Year 1978 Objectives

- To initiate and carry out subsidence control demonstration projects that will protect immediate subsidence danger areas and provide information for costing and evaluating the long-term effectiveness of subsidence control methodology.
- To examine and test effective methods for the disposal of spent mine processing refuse that otherwise would degrade aesthetic quality in storage areas and provide the opportunity for air and water pollution.
- Investigate the recovery and use of anthracite coal from mine refuse banks and the final disposal of the spent processing product for application to underground and surface mined land stabilization.
- Administer authorized Federal/State programs and projects for the control and drainage of mine water under Public Law 84-162 and for the sealing and filling of abandoned mine voids under Public Law 87-818.

Alternatives and Strategy

The Bureau's strategy is to continue this small demonstration effort and to complement it with other work areas in a manner that will effectively develop and demonstrate methods for correcting past and preventing future mined land desecration.

Work activities for the anthracite subprogram are engineered and developed in accord with the nature of problems and their impact on environmental quality in a specific program area. Research or demonstration for resolving problems in affected mining areas is best carried out in the field where results can be effectively monitored and where the benefits can be tangible, i.e., resulting in correction or prevention of the specific damage.

Program of Work

Demonstrations and studies about mined land restoration will continue in FY 1978.

- Demonstration Projects/Studies--Onsite demonstration projects and studies will continue for the development of systems and techniques aimed at solving mine area problems in current and future mining. Particular efforts to develop better technology for controlling surface subsidence will center on the pumped slurry injection process which hydraulically injects fill material under pressure through a limited number of boreholes into inaccessible mine voids. Projects will test the system under a wide variety of abandoned mine conditions using coarser sized coal waste materials. Since crushing costs constitute a major expense in backfilling projects involving coal waste, demonstrated success in injecting this material could result in significantly lower costs for future subsidence prevention projects.

- Mine Map Repository--Anthracite mine maps will continue to be gathered and developed into the anthracite repository which includes data on past and current mining operations. Maps will be microfilmed and the systematic indexing-data retrieval systems expanded to assure maximum utility of the repository. Emphasis on selected areas of particularly adverse environmental impact (present or anticipated) will continue. Information gathered will relate to subsidence, underground mine fires, mine water control, public health and safety hazards, the location of anthracite mine refuse, etc.

- Anthracite Coal Recovery--Mine refuse banks will be sampled for coal recovery content in conjunction with the continued operation of the anthracite conversion demonstration plant project for developing cost data on coal recovery with the concurrent improvement of mine subsidence control technology.

- Other--Inhouse studies and contract research on the development of mine subsidence monitor/detector systems; on airborne infra-red and other thermal scanning for the detection and inventorying of mined land damage; on the extinguishment or control of underground/outcrop coal mine fires; on the extinguishment and disposal of burning coal mine refuse banks; on the utilization of coal mine refuse or the fostering of anthracite as a viable energy source (power generation), etc. Continued management and engineering of Federal/State mine drainage and mine public health and safety projects under Public Laws 84-162 and 87-818; and the preparation of Bureau reports and studies dealing with engineering, evaluation, and environmental quality of programs and projects authorized by the Congress.

Benefits

Benefits associated with continuation of the Anthracite Mined Land Program include but are not limited to:

- The improvement of environmental quality in areas affected by past coal mining and its attendant mineral processing.

- The improvement of land quality through the prevention of mine subsidence, control of fires, extinguishment and removal of coal mine refuse, and the restoration of strip-mined lands.

- The improvement of air quality through the extinguishment of underground, outcrop, and coal mine refuse bank fires.

- The improvement of water quality through the removal of coal mine refuse banks, the drainage and sealing of abandoned underground mines, and the reclamation of strip and surface-mined areas.

Constraints

Constraints affecting and associated with the Anthracite Mined Land Program are:

- In many cases the legal requirements constrict the work to publicly-owned surface lands and subsurface mineral rights.

Program Effectiveness

The effectiveness of the Anthracite Mined Land Program can be demonstrated through the knowledge that results of the continuing program are effectively applied to the conduct of programs and projects for the reclamation of mined land authorized under other Federal authorities, i.e., the Appalachian Mining Area Restoration Program, Public Law 89-4, as amended.

In addition, each Anthracite Mined Land Demonstration project, when it is completed, provides an immediate protection to public and private property and the public health and safety of people within the project area.

B. Anthracite Conversion Demonstration Plant

Fiscal Year 1977, $3,000,000; Fiscal Year 1978, $0; decrease of $3,000,000.

Major Program Changes

(1)	Anthracite Conversion Demonstration Plant	-$3,000,000; total $0 total 0 positions

Proposal. The decrease reflects provision of non-recurring funds for constructing a plant to demonstrate conversion of anthracite in mine waste banks.

Justification. The Bureau of Mines was directed by the Congress to focus its technical efforts toward resolving problems associated with the non-utilization of recoverable low sulfur anthracite from mine refuse banks that could be used for home heating coal in the northern anthracite region of Pennsylvania. In response to this direction, a project is underway to investigate technology and develop cost data on the recovery of anthracite from preparation plant refuse deposited throughout the region.

Cost Factors. The decrease of $3,000,000 is in contractual services.

C. Mined Land Investigations and Demonstrations--Bituminous Area

Fiscal Year 1977, $1,000,000; Fiscal Year 1978, $0; decrease of $1,000,000.

Major Program Changes

(1)	Mined Land Demonstrations, Bituminous Area	-$1,000,000; total $0 -0 positions; total 0 positions

Effect of mine subsidence in basement of home in northern anthracite region.

Proposal. The decrease reflects termination of an onsite mine subsidence demonstration project in southern Illinois.

Justification. It is believed that the program implemented in FY 1977 will provide the essential information concerning flushing work in the unique bituminous area of southern Illinois.

Cost Factors. The decrease of $1,000,000 is for contractual services.

D. Fire Control in Coal Deposits

Fiscal Year 1977, $248,000; Fiscal Year 1978, $248,000; no change.

Major Program Changes

No Change.

Subactivity Description

Long-Term Goals

- To extinguish underground and outcrop coal mine fires on public, private and Indian-owned lands in accord with the provisions of the Mine Fire Control Act of 1954, Public Law 83-738.

Fiscal Year 1978 Objectives

- To enter into contracts and grants for the control and extinguishment of underground/outcrop coal mine fires in inactive coal deposits.
- To prevent injury and loss of life, protect public health, conserve natural resources and preserve public and private property.

Alternatives and Strategy

The control of mine fires in inactive coal deposits is a continuing responsibility of the Bureau in accord with the Mine Fire Control Act of 1954. There are no alternatives to the conduct of this work, other than to have the Congress rescind Public Law 83-738. Projects are implemented upon request and in order of urgency. Projects on Federal and Indian-owned lands are funded 100 percent by the Bureau. Projects conducted on State-owned lands and on private property are funded at 50 percent of the project cost with the state or private cooperator paying the remaining 50 percent.

Program of Work

- Mine Fire Control Projects--Major program effort is in western states on public and Indian-owned coal lands. Work includes the conduct of surveys and determination of fire control methods; planning and execution of mine fire projects; administration of contracts and grants; inspection and certification of payments for fire control work carried out by contractors; and monitoring and maintenance of effectiveness of mine fire control work.
- Work Areas--No specific areas are designated. Projects will be carried out in western states on public and Indian-owned lands as applied for, and in accord with the availability of appropriated funds.

Benefits

- Benefits associated with the conduct of this continuing Bureau responsibility are the conservation of energy resources, the protection of public and private property, the protection of public health and safety and the prevention of loss of life.

Constraints

- The principal constraint to the full and effective use of this program activity, on other than Federal/Indian lands, is the lack of interest by private land/coal owners--who are required to pay one-half the cost of any approved project.

Program Effectiveness

Effectiveness of the Mine Fire Control program can be measured in terms of the small cost associated with the control of a fire that can, if left to burn, consume millions of tons of Federal, Indian, or privately owned energy resources. In addition, control of major outcrop/underground fires eliminates a major source of air pollution in the fire area, provides protection to indigenous wildlife, and protects the health and safety of nearby residential areas.

Examples of Recent Accomplishments

Mined Land Investigations and Demonstrations - Anthracite Area:

Further advancement of the Bureau-developed system for pressure flushing abandoned mine voids was demonstrated through the implementation of three projects that will (1) utilize hydrostatic differentials for vacuum flushing subsidence prone areas close to the surface (Dickson City), (2) adapt the system to the use of small portable pumping units (Archbald) and (3) provide an opportunity, for the first time, to observe and monitor the pressure flushing process in action from underground work stations in the abandoned coal bed that is being flushed (Jessup). One project was completed (Taylor) where Bureau engineers were able to inject a total of 340 tons of crushed 7/8-inch material into a single borehole that provided ground stability to a surface area exceeding 1,000 feet in diameter. Another project (Moosic Borough) was initiated which will demonstrate the capability of the pressure flushing system to the sealing and filling of underground mine voids where split and multiple beds have been removed leaving mine openings as high as 1 foot. Further development and evaluation of methods for the control and prevention of mine subsidence is continuing.

Under the Bureau's continuing Federal/State program for the control and drainage of mine water and the sealing of dangerous abandoned mine openings (Public Laws 84-162 and 87-818)--one project covering the installation of mine water pool monitoring stations was completed for the western middle anthracite field in Schuylkill County; agreement was reached between the Bureau and the Geological Survey for the conduct of an advanced cooperative study on mine water pool conditions; installation of a deep-well mine drainage pump in Hegins Township was implemented; and 18 hazardous mine openings were jointly selected by the Bureau and the Commonwealth for sealing and closure under the auspices of P.L. 87-818.

Continuing work on the Bureau's anthracite mine map inventory/microfilm/ folio project involved the production of 497 microfilm frames covering the assembly of 105 mine map folios. The folios are an essential tool used by the Bureau, other Federal offices, the State, and other authorized groups engaged in program and project work dealing with the environmental effects of past anthracite mining

such as mine fires, mine subsidence, mine water, mine refuse, etc., as well as the development and maintenance of information relative to the conservation and development of energy resources.

Under Public Law 89-4, as amended, Section 205 (Mining Area Restoration) of the Appalachian Regional Development Act, the Bureau continued to engineer, manage and administer work-action projects for resolving environmental problems associated with past mining of anthracite, bituminous coal and minerals and their related mine waste products. Since passage of the Act in 1965, the Bureau has acted in cooperation with the Appalachian Regional Commission and several of the 13 States in the Region to implement 83 major mined land restoration project contracts and grants. Included in the total are 46 mine fire contracts, 19 subsidence control grants, 11 surface mine reclamation grants, 5 oil and gas well sealing grants, and 2 mine refuse bank reclamation grants. Eleven projects aggregating $19,000,000 in total contract/grant costs are currently underway or pending work starts.

Control of Fires in Coal Deposits:

Contract work was completed on three mine fires--the Burning Hills fire in an area of the Kaparowitz Plateau in Utah; one near Lame Deer, Montana, and the other near Rifle, Colorado. In addition, program work was begun on a mine fire at Thermopolis, Wyoming, and on the Shoshone Indian Reservation near Hudson, Wyoming, and activity was initiated with the Ute Tribal Council for a work permit to complete two fire projects on the Reservation--one in Colorado and the other in New Mexico.

83-561 O - 77 - 65

4. Data Collection and Analysis: Fiscal Year 1977, $16,121,000; Fiscal Year 1978, $17,174,000; increase of $1,053,000. The increase consists of:

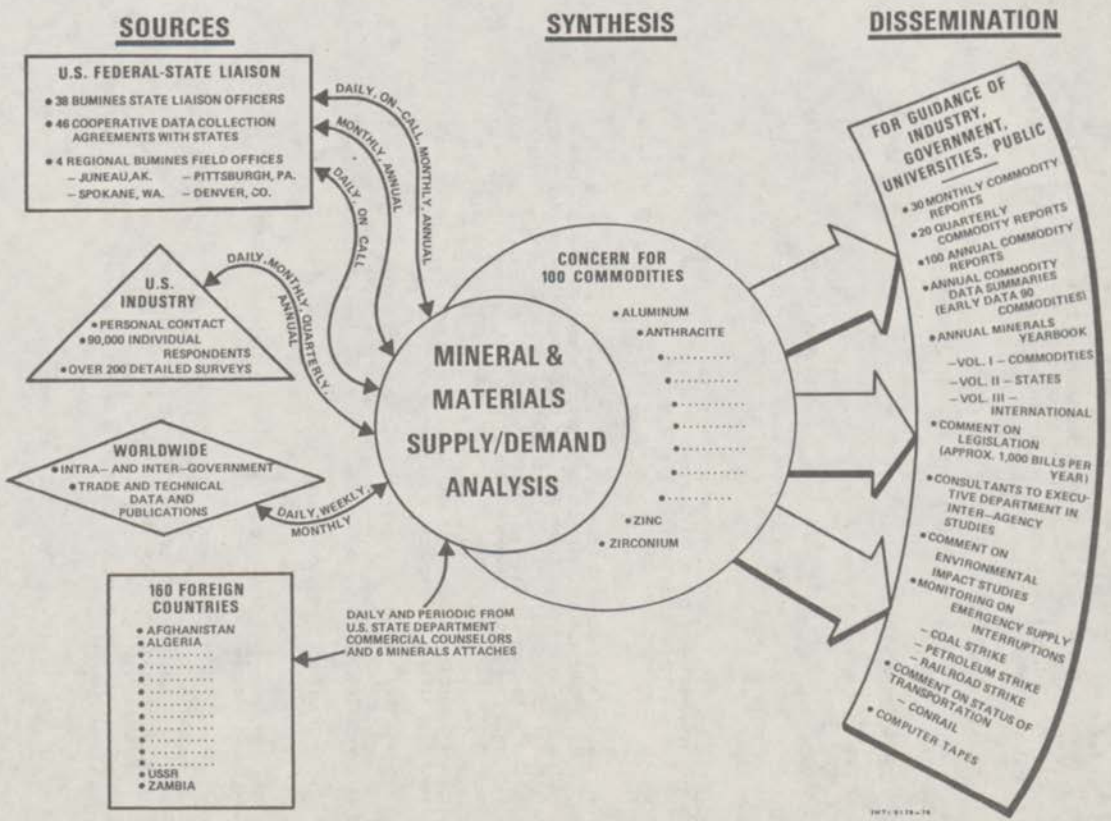
Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) $ +668,000	+6	$11,329,000	374	Information Collection and Dissemination - Automate minerals information base for 18 critical minerals, accelerate foreign mineral deposit evaluations for the Minerals Availability System, and discontinue the development of an energy model.
(B) + 300,000	+6	3,351,000	103	Policy and Economic Assessments - Ocean mining studies.
(C) --	--	2,409,000	85	State Liaison - No change.
(D) + 85,000	--	85,000	--	GSA space costs.
$ +1,053,000	+12	$17,174,000	562	

Program Description

The Data Collection and Analysis activity is directed toward the development and use of information which will assure the Nation an adequate supply of minerals and metals in the interest of national, social, economic and security requirements. The foundation for minerals-related policy guidance and decision-making and the basis for this activity is the information base from which all analytical and assessment efforts originate. This base includes over 200 statistical surveys covering over 100 mineral commodities and the canvassing of approximately 62,000 establishments. These efforts are conducted in support of the following goals:

- To provide and analytically interpret data and general mineral and fuel knowledge to Government, the public and appropriate foreign audiences.
- To provide, for Government policy guidance, the capability to analyze mineral information, to prepare contingency forecasts of mineral futures and to assess the impact of varying actions, manmade or natural, on future minerals supply and demand.
- To provide professional mineral consulting services to Government agencies and industry on issues related to research, regulation and legislation, international mineral policy and other mineral-related activities.

The subactivities contributing toward implementing the Bureau's mineral information concerns and attaining the major program goals are Information Collection and Dissemination, Policy and Economic Assessments, and State Liaison. These subactivities address major mineral problems. Minimizing supply vulnerability and improving our response to domestic mineral demand are more attainable, for


SOURCES
SYNTHESIS
DISSEMINATION
U.S. FEDERAL-STATE LIAISON
• 38 BUMINES STATE LIAISON OFFICERS
• 46 COOPERATIVE DATA COLLECTION AGREEMENTS WITH STATES
• 4 REGIONAL BUMINES FIELD OFFICES
– JUNEAU, AK. – PITTSBURGH, PA.
– SPOKANE, WA. – DENVER, CO.
DAILY, ON-CALL, MONTHLY, ANNUAL
MONTHLY, ANNUAL
DAILY ON CALL
U.S. INDUSTRY
• PERSONAL CONTACT
• 90,000 INDIVIDUAL RESPONDENTS
• OVER 200 DETAILED SURVEYS
DAILY, MONTHLY, QUARTERLY, ANNUAL
WORLDWIDE
• INTRA– AND INTER–GOVERNMENT
• TRADE AND TECHNICAL DATA AND PUBLICATIONS
DAILY, WEEKLY, MONTHLY
160 FOREIGN COUNTRIES
• AFGHANISTAN
• ALGERIA
• USSR
• ZAMBIA
DAILY AND PERIODIC FROM U.S. STATE DEPARTMENT COMMERCIAL COUNSELORS AND 6 MINERALS ATTACHES
MINERAL & MATERIALS SUPPLY/DEMAND ANALYSIS
CONCERN FOR 100 COMMODITIES
• ALUMINUM
• ANTHRACITE
• ZINC
• ZIRCONIUM
FOR GUIDANCE OF INDUSTRY, GOVERNMENT, UNIVERSITIES, PUBLIC
• 30 MONTHLY COMMODITY REPORTS
• 20 QUARTERLY COMMODITY REPORTS
• 100 ANNUAL COMMODITY REPORTS
• ANNUAL COMMODITY DATA SUMMARIES (EARLY DATA 90 COMMODITIES)
• ANNUAL MINERALS YEARBOOK
– VOL. I – COMMODITIES
– VOL. II – STATES
– VOL. III – INTERNATIONAL
• COMMENT ON LEGISLATION (APPROX. 1,000 BILLS PER YEAR)
• CONSULTANTS TO EXECUTIVE DEPARTMENT IN INTER–AGENCY STUDIES
• COMMENT ON ENVIRONMENTAL IMPACT STUDIES
• MONITORING ON EMERGENCY SUPPLY INTERRUPTIONS
– COAL STRIKE
– PETROLEUM STRIKE
– RAILROAD STRIKE
• COMMENT ON STATUS OF TRANSPORTATION
– CONRAIL
• COMPUTER TAPES

example, if the need for international agreements on security of supplies are evaluated and availability and price trends for minerals are identified. The need for Federal action ultimately rests on the need for accurate, reliable and timely mineral information to be collected and analyzed by a single Federal agency for more informed decisions. The Bureau of Mines is the principal Government source for this information resulting in the most up-to-date, comprehensive body of mineral industry information available in the world.

A. Information Collection and Dissemination

Fiscal Year 1977, $10,661,000; Fiscal Year 1978, $11,329,000; increase of $668,000.

Major Program Changes

(1) Automated Minerals Information System — +$500,00; total $500,000; +3 positions; total 3 positions

Proposal. To expand as an operational program a pilot project begun in FY 1977 to gather, merge and automate basic mineral information for 18 critical commodities.

Justification. Close scrutiny has been given to the U.S. mineral position in the 1970's in recognition of the risks inherent in possible widespread disruptions in mineral supply patterns or potential price increases. A comprehensive study by the Council on International Economic Policy in 1974 identified 18 minerals as "critical".

In response to this concern the Bureau of Mines conducted a pilot project in FY 1977 for two (aluminum and copper) of the critical minerals. The objective of the project was to develop an automated, data base-oriented information storage and retrieval capability so that information could be retrieved in a timely and cost-effective manner. In FY 1978, the information collected will be expanded to two additional commodities (chromium and platinum). The system is designed to merge information now scattered among various publications and data bases into one system. It will reflect growing concern for information elements such as environmental factors, transportation problems, energy use, possible defense and emergency allocations, and impacts of international commodity agreements.

Cost Factors. The increase will provide for 3 permanent positions for 10 months, $46,700; personnel benefits, $4,700; rent, communications, printing, supplies, and equipment, $28,000; and grants and contractual services, $420,600.

(2) Mineral Availability System (MAS) — +$500,000; total $500,000; +4 positions; total 60 positions

Proposal. To accelerate deposit evaluations for 18 critical minerals for completion by the mid 1980's.

Justification. The Minerals Availability System (MAS) is a computerized, mine/deposit evaluation system having domestic and foreign coverage. Through MAS, possible supply disruptions of critical minerals are defined and the implication evaluated for mineral deposits on the basis of technical and economic feasibility of mining and extraction. The increase will be used to evaluate deposit evaluations for those minerals where there is little domestic industry and where foreign sources may not be reliable.

Cost Factors. The increase will provide for 4 permanent positions for 10 months, $62,300; other than permanent positions, $55,500; personnel benefits, $12,000; rent, communications, supplies, and equipment, $41,000; and grants and contractual services, $97,000.

(3) Energy Model -$100,000; total $0
-1 position; total 0 positions

Proposal. To discontinue the development of an energy model.

Justification. This duplicates work already being done by the Federal Energy Administration.

Cost Factors. The decrease is for 1 permanent position, $18,600; personnel benefits, $1,900; rent, communications, printing, supplies, and equipment, $800; contractual services, $78,700.

Subactivity Description

Long Term Goals

- To collect mineral supply/demand information, domestic and foreign by means of formal surveys, deposit/mine evaluations, and personal contact to provide an impetus for increased productivity/production in minerals and related materials industries, to expand minerals availability, and to minimize mineral supply vulnerability.
- To publish and disseminate periodic technical, statistical, and analytical information to Federal, State, regional, local, and international government officials, industries, educational institutions, and the general public.
- To provide continuing informational, analytical, and assessment consulting services to public and private segments of the economy.

Fiscal Year 1978 Objectives

- To improve quality of data collected by increasing personal contacts with data sources by one-third.
- To improve the timeliness of publication (based on FY 1976 schedules) of the following:

  Mineral Trends and Forecasts - by 12 months
  Minerals in the U.S. Economy - by 9 months
  Minerals Yearbook - by 8 months

- To improve the response time for analyzing mineral-related problems, crises, and questions vital to Government decisionmaking by developing the automated information system and expanding the Fuels Availability System (FAS).
- To expand the Minerals Availability System (MAS) to include minerals for which there is a strong dependence on foreign sources that may not be reliable.

Alternatives and Strategy

There is a need within the Federal Government for one primary agent to collect and disseminate mineral information both domestic and foreign. There are other ways it could be accomplished. Publications by trade associations could be utilized. Specific information needs could be contracted-out to trade organizations or consultants. Reliance could be placed on publications by other governments and the United Nations.

The collection of mineral information and its dissemination cannot be merely the tabulation and publishing of raw data. The data must be verified, interpreted, and analyzed by professional mineral specialists. Only by undertaking this professional approach can the basic goal of providing intelligent guidance to governmental and industry policymakers be accomplished. The program strategy of the Bureau of Mines is designed to provide this professional competence.

The Bureau, as a consequence of its Organic Act as amended, The Stock Piling Act, The Defense Production Act, and the provisions of the Mining and Minerals Policy Act of 1970, maintains information on the availability of mineral reserve supplies for national production and consumption. To meet this responsibility the Bureau could utilize limited outside sources, or manual methods using available data and industry sources compiled by its commodity specialists. A more effective alternative would be to develop and operate a national computerized minerals inventory, the Minerals Availability System (MAS), which incorporates economic, technological, environmental, and social elements that influence the availability of minerals supplies. Fully developed, MAS will define by a systematic methodology the available major non-fuel mineral reserves at varying costs and probabilities of existence.

Program of Work

The Bureau of Mines functions as the Federal Government's principal worldwide comprehensive mineral information system. The information collected provides a continuing flow of highly reliable statistical, analytical, technical, and general information on metals, minerals, and fuels to government and public audiences, both at home and abroad.

- Periodic Publications--Raw data will be collected for some 100 commodities through more than 200 statistical surveys involving the contact of over 62,000 establishments resulting in over 150,000 responses annually and requiring over 160 man-years of effort. These data, verified by commodity specialists and statistical staffs, are processed into statistical series covering all aspects of domestic production, processing, and consumption.

  In an effort to improve the quality of data collected commodity specialists will make more contacts with information sources. Currently, it is estimated that about 10 percent of a specialist's time is spent in personal contacts through correspondence, telephone, and travel. This increase in contacts will be accomplished primarily through improved travel planning which will enable commodity specialists to contact more information sources in shorter periods of time at a savings in travel costs. The collected information will be disseminated through an established series of publications, both periodic and non-periodic, speeches, special papers and reports. Periodic publications planned for FY 1978 are:

Publication	Number of Commodities	Published Copies
Mineral Industry Surveys		
Weekly	2	2,500
Monthly	25	54,000
Quarterly	15	17,000
Annual	80	129,300
Status of Mineral Industries (Annual)	95	10,000
Minerals & Materials: A Monthly Survey	17	4,000
Annual International Petroleum	1	3,000
Commodity Data Summaries (Annual)	95	6,000
Minerals in the U.S. Economy	95	6,000
Mineral Trends and Forecasts	95	6,000
Mineral Trade Notes (Monthly)	--	2,500

Publication	Number of Commodities	Published Copies
International Coal Trade (Monthly)	1	1,400
Minerals Yearbook		
Volume I	90	5,900
Volume II	50 (States)	4,600
Volume III	157 (Countries)	5,000

A concerted effort will be made to improve the publications schedules of three of the above: Mineral Trends and Forecasts - 1977 data to be published by July 1978; Minerals in the U.S. Economy - 1977 data to be published by September 1978; and the Minerals Yearbook - 1977 data to be published by December 1978. This will be accomplished by shortening closeout dates, relying more on estimated import and other figures, and in the case of the Minerals Yearbook, automating the publication. The estimated import figures will be enhanced by the expertise of our foreign mineral specialists--an expertise gained through increased personal contact with foreign government and industry sources.

In addition, information will be disseminated through technical assistance and consultation services by commodity and geographical area specialists. It it estimated that these specialists will devote approximately 20 percent of their time to these responsibilities which include providing background information and recommendations during crises, (wildcat coal strike, summer 1976); commenting on legislation (approximately 1,000 bills per year); responding to 140,000 information inquiries annually; and serving on special agency and interagency committees and task forces, such as Project Independence, National stockpile studies, international economic policy task groups, etc.

- Automated Minerals Information System--The collection and dissemination of mineral information will be enhanced by the initiation of the new automated mineral information system. For several years the Bureau has encountered ever increasing demands for minerals information that could only be met through the use of a computerized, data base-oriented information storage and retrieval system. Thus, in FY 1977, such a system in the nature of a pilot project was developed for two (aluminum and copper) of the 18 critical minerals. This system will be implemented in the early part of FY 1978 and expanded to include chromium and platinum and a broader data base.

- Fuels Availability System (FAS)--Within the framework of the FY 1977 funding level modest expansions and improvement will be made in FAS. These include:

  Monitor and review selected canvass forms and other data acquisition sources to reduce the burden on respondents and continue to fully support the needs of the user community.

  Improve the accuracy and timeliness of data with the FAS through the development of improved data input techniques and the employment of auditing procedures.

  Add new data files to the Data Base Management System, and review and improve current capabilities.

  Review data elements within the system for the purpose of enhancing data utilization.

- Minerals Availability System (MAS)--MAS is based on mineral deposit evaluations coupled with computer based storage, retrieval, and analysis methods. Data collected for the system by the Bureau and by contractors and grantees on domestic deposits of copper, nickel, zinc, and iron and foreign deposits

FREQUENCY OF REGULARLY ISSUED BUREAU OF MINES COMMODITY REPORTS

(W WEEKLY. M MONTHLY. Q QUARTERLY. A ANNUALLY)

MINERAL INDUSTRY SURVEYS:

ABRASIVE MATERIALS (A)
ALUMINUM (M.A)
ANTIMONY (Q.A)
ASBESTOS (A)
BARITE (A)
BAUXITE (Q)
BERYLLIUM (A)
BISMUTH (Q.A)
BORON (A)
BROMINE (A)
CADMIUM (Q.A)
CALCIUM-MAGNESIUM CHLORIDE (A)
CARBON BLACK (Q.A)
CEMENT (M.A)
CESIUM AND RUBIDIUM (A)
CHROMIUM (M.A)
CLAYS (A)
COAL, BITUMINOUS (W.A)
COAL, BITUMINOUS DISTRIBUTION (Q)
COAL, ANTHRACITE (W.A)
COAL, ANTHRACITE DISTRIBUTION (A)
COBALT (M.A)
COBALT REFINERS (Q)
COKE AND COAL CHEMICALS (M.A)
COKE DISTRIBUTION (A)
COKE PRODUCERS (A)
COLUMBIUM AND TANTALUM (A)
COPPER INDUSTRY (M.A)
COPPER PRODUCTION (M)
COPPER SULFATE (Q)
DIATOMITE (A)
FELDSPAR (A)
FERROALLOYS (SEMIANNUAL)
FERROSILICON (Q.A)
FLUORSPAR (Q.A)
GEM STONES (A)
GOLD AND SILVER (M.A)
GRAPHITE (A)
GYPSUM (M.A)
IODINE (A)
IRON AND STEEL (A)
IRON AND STEEL SCRAP (M.A)
IRON ORE (M.A)
KYANITE AND RELATED MATERIALS (A)
LEAD INDUSTRY (M.A)
LEAD, PRIMARY PRODUCTION (M)
LIME (M.A)
LIQUEFIED PETROLEUM GASES & ETHANE SALES (A)
LITHIUM (A)
MAGNESIUM, PRIMARY (Q.A)
MAGNESIUM AND MAGNESIUM COMPOUNDS (A)
MANGANESE (M.A)
MERCURY (Q.A)
MICA (A)
MINERAL PRODUCTION, WORLD (A)
MINOR NONMETALS (A)
MOLYBDENUM (M.A)
NATURAL GAS (M.A)
NATURAL GAS LIQUIDS (M)
NATURAL GAS PRODUCTION, WORLD (A)
NICKEL (M.A)
NITROGEN (A)
PEAT (A)
PEAT PRODUCERS (A)
PERLITE (A)
PETROLEUM AND PETROLEUM PRODUCTS:
- ASPHALT SALES (A)
- CRUDE OIL PRODUCTION, WORLD (A)
- CRUDE OIL AND PRODUCTS PIPELINE MILEAGE (TRI-ANNUALLY)
- DISTRICT V PETROLEUM STATEMENT (M.A)
- FUEL OIL AND KEROSINE SALES (A)
- FUEL OILS BY SULFUR CONTENT (M)
- PETROLEUM REFINERIES IN U.S. (A)
- PETROLEUM STATEMENT, ADVANCE RELEASE (M)
- PETROLEUM STATEMENT (M.A)

PHOSPHATE ROCK (M.A)
PLATINUM GROUP METALS (Q.A)
POTASH (A)
PUMICE AND VOLCANIC CINDER (A)
RARE EARTH ELEMENTS AND THORIUM (A)
RHENIUM (A)
SALT (A)
SAND AND GRAVEL (A)
SELENIUM (Q)
SELENIUM AND TELLURIUM (A)
SLAG, IRON AND STEEL (A)
SODIUM COMPOUNDS (A)
STONE (A)
SULFUR (M.A)
TALC, SOAPSTONE, AND PYROPHYLLITE (A)
TIN (M.A)
TITANIUM (Q.A)
TUNGSTEN (M.A)
URANIUM (A)
VANADIUM (M.A)
VERMICULITE (A)
ZINC INDUSTRY (M.A)
ZINC PRODUCTION (M)
ZINC OXIDE (M)
ZIRCONIUM AND HAFNIUM (A)

OTHER REPORTS:

COMMODITY DATA SUMMARIES (COVERS 95 COMMODITIES) (A)
MINERALS AND MATERIALS (COVERS 17 COMMODITIES) (M)
INTERNATIONAL COAL TRADE (M)
INTERNATIONAL PETROLEUM ANNUAL (A)
MINERAL TRADE NOTES (M)
MINERALS YEARBOOK, VOL. I (COVERS 92 COMMODITIES) (A)
MINERALS YEARBOOK, VOL. II (COVERS 50 STATES) (A)
MINERALS YEARBOOK, VOL. III (COVERS 157 COUNTRIES) (A)
MINERAL FACTS & PROBLEMS (COVERS 89 COMMODITIES) (EVERY 5 YEARS)

07576

of chromium, tin, cobalt, and platinum will be reviewed and brought up to system standards. Missing information will be obtained. Various mineral supply alternatives will be analyzed. The results of these evaluations will be made available in reports and through computer access for use by Bureau and Interior specialists requiring reserve data and analyses. Previously addressed commodities--aluminum, chromium, tin, cobalt, platinum, and manganese--will be reviewed, updated, and reanalyzed. Verification and enhancement of data will be derived from interaction with Bureau, Geological Survey, and other specialists. Emphasis will be placed on preparation of deposit reports and computer data retrieval capabilities that will give commodity specialists improved access. In addition, a materials flow model developed under a grant for copper will be expanded to include aluminum.

Besides mine deposit evaluations, there are two other important components of MAS - the Mine Map Repository and the Mineral Industry Location System (MILS) programs. In FY 1978, 15,000 maps will be acquired, indexed, and microfilmed for the Mine Map Repository. MILS will complete domestic coverage and expand the indexing aspects of the system to serve as a reference to Bureau and non-Bureau resource/reserve information.

Benefits

- Automation of mineral information will result in increased accessibility and quicker retrieval of more comprehensive mineral information for use in commenting on proposed legislation, monitoring supply disruptions, predicting balance of trade trends, guiding investment decisions, and planning for environmental implications.

- The incorporation of additional critical minerals under MAS will provide the capability to quickly assess the potential availability of mineral supplies in the context of many parameters that impinge upon supply such as costs of mining, transportation, environmental impacts, land use, productivity and technology efficiencies.

Constraints

The reluctance on the part of industry to provide certain information on canvass forms because it considers it confidential.

Program Effectiveness

The products from this program are mineral publications and basic mineral information. A continuing program exists to assess and improve both the timeliness and quality of these products. For example, the petroleum and coal information collected under FAS is evaluated by the very nature of the Bureau's agreement with the Federal Energy Administration. As deposit reports, supply evaluations, and other products are completed under MAS, they are forwarded to the respective users such as commodity specialists for review and verification. This review and verification process aids program effectiveness by developing valuable interaction between the user and the deposit evaluator.

In FY 1975, a study was conducted to evaluate the feasibility of speeding up the publication of the Minerals Yearbook. In FY 1976, the recommendations resulting from that study were used on a pilot basis for producing one chapter. In FY 1977 and FY 1978, schedules for a number of mineral publications will be shortened based on the earlier study and recommendations to automate the typesetting, shorten closeout dates for data collection, and increased use of estimated import and other information.

In Fiscal Year 1977 a program evaluation design will be completed resulting in a broad user survey of mineral publications. This design will address specific program issues such as:

- Extent of use by categories of user audience
- Optimum publication schedule by category of user
- User suggestions for changes, elimination, or new publications
- Cost/benefit basis for publications

In Fiscal Year 1978 the evaluation project will be undertaken and the recommendations will be incorporated for implementation.

B. Policy and Economic Assessments

Fiscal Year 1977, $3,051,000; Fiscal Year 1978, $3,351,000; increase of $300,000.

Major Program Change

(1) Ocean Mining — +$300,000; total $300,000
+6 positions; total 6 positions

Proposal. The increase would be used to conduct studies related to ocean mining of minerals that will contribute toward the early development of these resources while minimizing the disruption of onshore mineral supplies.

Justification. Declining domestic reserves and the growing dependence on imports has led to increasing emphasis on ocean deposits for meeting some of our national mineral needs. An international agreement to establish a common basis for using these deposits is now being pursued through the Law of the Sea Negotiations. If these negotiations are successful, commercial operations for developing these resources could then be started. Studies are needed that would lead to a more efficient and smoother integration of these supplies into the world metal market before production regulations and marketing mechanisms are established.

Cost Factors. This increase will provide for 6 permanent positions for 10 months, $93,500; personnel benefits, $9,500; travel, $10,000; rent, communications, supplies, and equipment, $23,000; and grants and contractual services, $164,000.

Subactivity Description

Long Term Goals

- To provide quick and accurate mineral economic and industry analyses, recommendations, and information to decisionmakers in the Bureau of Mines, the Department of the Interior, and other Government agencies to help answer policy questions that arise in the minerals areas.
- To provide decisionmakers with analyses and recommendations relative to anticipated problems; and provide this information in unclassified form to the public.
- To assess the mineral industries, the economy and political activities in foreign countries with reference to their effects on the mineral supply of the United States, develop policy operations and make recommendations.

Fiscal Year 1978 Objectives

- To conduct the following mineral problem studies and assess the implications for use in formulating mineral policy: a series of analytical studies on critical minerals, U.S. and international mineral tax laws, transportation and manpower needs and problems, regional impact analyses, mineral industry

financial position and organizational structure, mineral supply access, and land use and the environment.

- To prepare a report on the status of the mineral industries of foreign countries and advise on the impacts of domestic and foreign mineral policy on the supply of foreign minerals to the U.S.

- To assess the impact and evaluate alternatives regarding the introduction into the world market of minerals from ocean mining.

Alternatives and Strategy

Evaluation and assessment in mineral policy analysis that is now being performed by the Bureau could be left undone and those making decisions in the mineral policy area at the Federal Government level could make decisions without benefit of formal analytical input. Another Federal agency could do it. The work could be done by contract. A small research unit at some policy level could search sources and compile abstracts on policy questions, hire consultants on an "as-needed" basis. A more effective approach is to have the work done by a group of professionals who have developed a high degree of expertise in studying mineral policy assessments, who devote their full time to the subject matter, and who have access to the Federal Government's greatest one source of mineral information. Such demanding qualifications are met by the Bureau. The alternative to having in-house expertise in foreign minerals is to rely solely on personnel at American embassies abroad. These personnel can supply raw information but cannot interact with each other to produce regional assessments or global reports. They cannot engage in the dialogues with other bureaus necessary for making comprehensive mineral policy assessments.

Program of Work

The Bureau assesses national mineral policy through interindustry and economic analysis of international mineral data. Interindustry and economic analysis has three basic functions: ongoing, response, and anticipatory. There are on-going activities for supply/demand information related to mineral policy analysis. At the same time, the very nature of policy decisions has required that the Bureau develop an expertise to react and anticipate potential problems. Thus, for FY 1978, the program of work will include:

- Mineral Position Analysis--The preparation and dissemination of several aids to Government and industry planners concerned with assuring adequate mineral raw materials will be continued, including:

  -- "Status of the Mineral Industries"--This publication presents a concise graphic view of the Nation's mineral position.

  -- Charts and slides--Depict mineral position for use by Government officials, educators, economists, students, environmentalists, and researchers.

  -- "Review of the Mineral Industries," chapter in Minerals Yearbook--Provides various data pertaining to the mineral industry on an annual basis.

  -- Price Memorandum--A weekly review and summary of price developments in the mineral industries for the Council of Economic Advisers.

  -- Annual Reports--Information will be developed and supplied to aid in the preparation of the Secretary of the Interior's Annual Report to Congress under the Mining and Minerals Policy Act of 1970.

- Mineral Related Studies--Various analytical studies are planned for the purpose of anticipating mineral policy suggestions as well as expanding expertise

to respond to them. The following study areas are of high priority interest:

-- Critical Minerals and Supply Access. The number of minerals to be evaluated in the "critical minerals" program will be expanded to include the 18 minerals now identified as critical by the Council on International Economic Policy. Assurance of access to foreign supplies is part of each mineral evaluation. The consumption pattern and sources of supply for other minerals, not now considered critical, will be examined to determine the advisability of adding to the list of critical minerals. Mineral stockpiles will be examined on a continuing basis in relation to mineral supply/demand.

-- Environmental Analysis. Increased knowledge of the impact of basic chemical elements on the environment will be the focus of ecological studies. These studies will contribute to recommendations which will assist in balancing the need for minerals with the need to maintain a healthy environment. The alternative economic uses of mineral-rich lands will be evaluated. The cost of rehabilitation of mined land, preparing it for subsequent use, will be studied. Recommendations, based on economic values, concerning land use patterns, including sequential land use will be formulated.

-- Transportation. The transportation system and its capability to serve the mineral industries will be studied, and potential problem areas will be identified. Future transportation requirements of the mineral industries will be estimated and plans for improving critical portions of the transportation system will be evaluated and recommendations made.

-- Regional Impact Analysis. The total economic impact of mineral industry activity or anticipated activity on regions will be studied. The requirements for regional goods and services industries needed to build and maintain a strong minerals activity will be expanded.

-- Mineral Taxation. Tax laws (Federal, state, local, and foreign) will be studied and compared in order to determine their impact on the development and maintenance of a strong supply base.

-- Ocean Mining. International supply/demand analyses will be made on mineral commodities to be produced by an ocean mining industry. Emphasis will be on U.S. needs for these minerals, world demand, world market prices, and effects on the economies of the traditional onshore producing countries. Data on the state-of-the-art in ocean mining technology will be compiled and maintained. Studies will be conducted on the capital and operating costs of these new technologies. New Law of the Sea provisions, resulting from international conferences, will be analyzed for their influence on ocean mineral development.

-- Other Studies. The following important areas of concern, although not as critical as those already described, will be researched: Financial and Structural Analysis; Technological-Statistical Forecasting and Econometrics; Operations of Mineral Markets; Manpower, Supplies, and Equipment; International Trade; Energy and Mineral Resources-Land and Oceans; Recycling and Secondary Materials.

• Consulting, Coordination, and Monitoring Services--These services cannot be planned for in a specific manner because they are in the nature of ad hoc responsibilities. They include monitoring crises; serving on special, short term committees, panels, etc.; participating in interagency studies; and preparing speeches related to mineral policy. For instance, it was the Bureau's responsibility to monitor the coal strikes of 1974 and 1976, and the rubber strike of 1976. When it was proposed that the railroads of the northeast be reorganized the Bureau assessed its impact on the mineral industries. Bureau

professionals participated in the stockpile study ordered by the National Security Council. Inquiries by the Department of the Interior, other Federal agencies, Congress, mineral industries, etc. are a daily occurrence.

- International Data and Analysis--The Bureau of Mines has the responsibility for assuring that the Federal Government has adequate foreign mineral information in order that decision makers can make intelligent mineral policy decisions. Major emphasis will be given in FY 1978 to:

  --The analyses of issues affecting regional and economic groups of countries, including the impacts of the actions of these groups on the Nation's mineral supply.

  --The compilation of reports covering mineral activities in foreign countries including a summary of worldwide mineral developments for the Minerals Yearbook.

Benefits

- The environmental studies will provide guidance to Government and industry regarding the costs and benefits of mined land rehabilitation.

- The transportation analysis will examine the present and assess the future domestic transportation requirements of the minerals industry with specific recommendations for system improvements.

- The regional impact analysis will assist state government and local communities to determine the impact of increased or decreased mineral development on regional economics.

- The evaluation of tax laws (Federal, state, local and foreign) will be evaluated to assess their impact on domestic minerals investment and will serve as a policy tool in reassessing the tax laws.

- The ocean mining studies will contribute toward the early development of ocean mineral resources by assessing the capital and operating costs of the new technologies and conducting international supply/demand analyses to reduce the disruption into the world mineral trade of ocean minerals.

Constraints

- The inadequacy of foreign data because of the paucity of records maintained by some foreign governments.

- Lack of information on ocean resources and of onshore production costs from existing deposits.

Program Effectiveness

The effectiveness of this subactivity will be indicated by the use of the completed analyses in making better informed decisions affecting the minerals industry. In FY 1977, a major effort is being made to further develop the capability to respond to analytical requests by anticipating mineral problem areas. During FY 1978, a start will be made toward assessing the program impact by developing decision oriented criteria by which the completed studies and analyses can be assessed. The criteria could include some of the following items:

- Was the analysis completed in time to be used?

- Did the studies address the available options and alternatives?

- Were all relevant technologic, environmental, economic, social and political

factors considered?

- To what extent were the analyses relied on by the decisionmakers and did they influence the decision?

C. State Liaison

Fiscal Year 1977, $2,409,000; Fiscal Year 1978, $2,409,000; no change.

Major Program Changes

No change.

Subactivity Description

Long Term Goals

- To contribute to the Bureau's program and policy guidance efforts by identifying and defining opportunities for Federal or cooperative Federal-State action on mineral-related matters.

- To provide technical assistance, advice and counsel to state and local planning, legislative and executive bodies having a role in actions affecting mineral resources or their use.

- To serve as spokesman to explain, describe and inform groups or individuals of the mission, activities, capabilities and facilities of the Bureau, and to identify for the public Federal agencies having responsibilities in mineral areas.

- To maintain close contact with the mineral activity in the states, thereby improving the flow of data concerning mineral resources to the Federal Government, and minimizing duplication in the allocation, analysis, and dissemination of data.

Fiscal Year 1978 Objectives

- Increase the feedback from the State Liaison Offices and use the information more effectively in influencing Bureau programs.

- Determine the effectiveness of the State Liaison program in influencing state and local decisions from a minerals perspective.

Alternatives and Strategy

The alternatives are to maintain no nationwide coverage, establish regional or subregional offices or to continue the present State Liaison program. The increasing rate of land use planning at the local, state and regional levels, with its impact on mineral production clearly indicates the value of having informed mineral experts available to provide needed information. The Bureau does not maintain regional offices per se. Accordingly, the 38 Liaison Offices serving all 50 states and Puerto Rico have proved to be the most efficient and economic alternative. These offices, each headed by a qualified specialist in the minerals field, serve as the Bureau's primary contact and as the Director's personal representative.

Program of Work

Through its State Liaison Officers, the Bureau provides both a mineral information and service function. These officers provide on-the-spot coverage of all mineral industry developments. In many states the Liaison Office is the Bureau's only office. They improve cooperation among Federal, state, and local offices in

addressing and solving mineral industry problems, while also providing Bureau services to state governments, industry, educational institutions and the public. The liaison program for FY 1978 reflects the on-going nature of these activities:

- Information Collection and Dissemination--Monitoring the mineral activity in the states; serving as spokesman to explain, describe or otherwise inform groups or individuals of the mission, activities, capabilities and facilities of the Bureau, arranging meetings, and contacts for Federal officials with state and local officials. A continual responsibility in the preparation of the State chapters for the Minerals Yearbook. Additionally, issue papers concerning mineral-related problems are prepared or updated. That which determines the development of an issue paper is an awareness of the current scene by the Liaison Officer and his discussions with knowledgeable people in the public and private sectors. The information is gathered by research and through personal contact.

- Policy and Program Coordination--Contributing to the Bureau's program and policy guidance efforts by identifying and defining opportunities for Federal or cooperative action on mineral-related matters; encouraging states to take the initiative in solving mineral-related matters within their respective jurisdiction with support of the Federal establishment.

- Legislative Activities--Providing information on Federal programs to state legislative and executive bodies to help them in implementing Federal laws relating to minerals and fuels; providing technical assistance, advice and counsel to state and local planning, legislative and executive bodies having a role in action affecting mineral resources of their use.

- Emergency Functions--Helping to carry out Department of the Interior assignments in any defense emergency, national crisis, or natural disaster.

Benefits

- An increased dialogue between the Federal Government, state and localities in understanding problems and decisions relating to the mineral industry.

- Identification and analysis of specific mineral problems peculiar to a particular state.

Constraints

A major constraint is institutional--overcoming the traditional concern among elements of state and local governments and the minerals industry as to the potential difficulties they believe may be inherent in full cooperation with Federal agencies. A secondary constraint is the difficulty in assessing the effectiveness of a technical assistance/information dissemination program such as this.

Program Effectiveness

During the past years there has been an evolution of the role and functions of the State Liaison Officers. The program has begun to stabilize and it is planned that during FY 1977 an evaluation plan will be developed which will be implemented in FY 1978. Issues such as the following will be included.

- The effectiveness of the program in influencing state and local decisions from a minerals perspective.

- Adequacy of data collection and analysis.

- Efficiency (cost/effectiveness) of the program.

- Performance standards for State Liaison Officers.

D. GSA Space Costs Increase

Increase $85,000. An additional $85,000 is requested to cover a prorata share of increased Standard Level Use Charges.

Examples of Recent Accomplishments

Information Systems--The Bureau's analytical activities are enhanced by two information systems: the Fuels Availability System (FAS) and the Minerals Availability System (MAS). These systems have been expanded and improved as follows:

- Fuels Availability System (FAS)

  -- Development of an information storage and retrieval system was initiated as a pilot project. Implementation of this system will provide the Bureau with a capability to store, maintain, and access its automated energy data in a timely and efficient manner using the latest available Data Base Management techniques. Currently three FAS subfiles, the canvass data on natural gas processing plant operations and petroleum refinery capacity, and the Oil and Gas Production data, are under development in this system.

  -- As part of a growing awareness of the need to share energy data with other government agencies as well as the private sector, a program was begun to provide automated access to data through time sharing services. A data base of energy consumption by type of fuel and consuming sector for all States during 1960-72 has been made available through the "INFONET" system and can also be purchased on magnetic tape.

  -- A data base containing State-by-State fuels and energy consumption data from 1960 through 1972 was developed. This base contains data on four major consuming sectors: industry, transportation, power generation by utilities, and household/commerical. Later expansion included additional energy information for 1973 and 1974. This file is now the source for Bureau publications and data needs of other users.

  -- The annual report on the capacity of petroleum refineries in the United States and Puerto Rico was automated in 1975 and the 1976 report was produced from these programs.

  -- Five survey forms were discontinued lessening industry's reporting burden.

- Minerals Availability System (MAS)

  -- Completed domestic manganese feasibility studies identifying major resources.

  -- Activated an online deposit/mine data base containing over 70,000 domestic and foreign mine locations.

  -- Completed systematic mine and beneficiation cost system applicable to North America.

  -- Established distributed process network for the entry and maintenance of the deposit/mine computer file.

  -- Evaluated phosphate reserves of Florida.

  -- Assessed, in detail, southern Oregon nickel laterite reserves.

-- Analyzed requirements of the MAS data base and system procedures to refine and restructure to provide greater efficiency and response capability.

Periodic Publications--The dissemination of specific kinds of information on a regular and current basis is an important function of the Bureau. Each year Bureau professionals author some 115 publications with a distribution of nearly 250,000 copies. Every five years Mineral Facts and Problems is published and 18,000 copies distributed.

- Commodity Data Summaries--This annual report provided an overview of resources, reserves, production, imports, exports, use, recycling, substitution, environmental considerations, and other related subjects for 100 major mineral materials and mineral fuels.
- Mineral and Materials--This publication was issued monthly. It presents graphically and in tabular form essential information, including shortrun forecasts, on the major mineral materials and fuels used in our economy.
- Mineral Industry Surveys--A wide variety of timely statistical reports designed to keep the public, business community, and Government informed on trends in production, distribution, stocks, and consumption of selected mineral commodities. In FY 1976 over 300 weekly, monthly, quarterly, semiannual, and annual reports were published.
- Mineral Facts and Problems (Bicentennial edition)--A 1,366-page volume was issued. It was written for scientists, engineers, economists, educators, industrialists, and Government planners and policymakers, and was expanded to respond to increasing national concern over adeqacy of mineral, materials, and fuel supplies. The new edition contains more definitive information on U.S. and world reserves and resources of all major minerals, current and future smelting capacities for nonferrous metals, current and future production capacities for all other major minerals, recycling diagrams, forecasts and projections of U.S. and world requirements for all mineral commodities to 1985 and 2000. The Bicentennial special profiles the importance and use of minerals in the U.S. economy from 1776 to 2000.
- Mineral Trends and Forecasts--The first edition of this latest annual Bureau publication was issued in FY 1976. Historical, current, and future supply-demand relationships for the major mineral and fuel commodities were presented in summary table form. Latest available data on U.S. and world mineral reserves and resources were compared with forecasts of cumulative demand through 1985 and 2000 for the purpose of identifying short and long term mineral supply problem areas and to analyze the adequacy of future mineral supplies. The summary tables included data on U.S. demand growth rates, demand by end use, per capita demand by commodity, and secondary metal demand. These are helpful to Government and industry planners in identifying potential mineral supply problems.
- Minerals Yearbook--Published annually in three volumes. Volume I covers 92 commodities; Volume II, 50 States; and Volume III, 157 countries. These are standard references used worldwide. A total of about 15,000 copies was distributed in FY 1976.

Special Studies--These are analytical in nature and primarily are tailor-made for real or potential problems. Significant examples of recent studies are:

- Special Foreign Reports--Efforts have been intensified to expand and improve foreign mineral data and its analysis. One result has been the development of special foreign and area reports. Initial publications have been:
  -- The People's Republic of China - A New Industrial Power With A Strong Mineral Base

83-561 O - 77 - 66

-- Mineral Industries of Africa

-- Mineral Industries of the U.S.S.R.

-- Mineral Industries of the Far East

- Supply and Demand for United States Coking Coals and Metallurgical Coke--This study is unique in its authoritative treatments of the subject matter and serves as a pilot effort that will be further pursued by the combined efforts of the Department of the Interior, the Department of Commerce, and the Federal Energy Agency. It also assesses the current status of the U.S. coke industry and expected requirements for metallurgical coke in the United States in 1985.

- Effects of Air Quality Requirements on Coal Supply--This analysis identifies the quantities of coal which conform or do not conform to established or proposed air quality standards. It provides insights into coal's position as a major component of the Nation's energy structure, prospects for increasing its role, and opportunities for expanding current mining capacities.

- Fuels and Energy Data: United States by States and Census Divisions, 1973--Information concerning State energy balances for 1973, along with reserve and production data, has resulted in this study, published as an Information Circular, being used extensively, particularly by State energy offices.

- Historical Consumption of Energy by State 1960-72--This study is in the form of two Information Circulars, containing a combined total of nearly 900 pages. State energy consumption data are identified by source and major consuming sector. Such a breakdown, not readily available before, will assist greatly in regional econometric forecasting of future energy requirements for our Nation.

- The Reserve Base of U.S. Coals by Sulfur Content - The Western States--This is the second of a two part study - the first on the Eastern States was completed in the Spring of 1975. Combined they reflect the most comprehensive coal reserve base study undertaken by the Bureau.

- Froth Flotation in 1975--This study, produced as a special Mineral Industry Survey, provides information, compiled by means of a nationwide survey, on the quantity and grade of materials treated, quantity and grade of products recovered, energy requirements, water used, grinding media consumption and identification, and quantity and unit cost of reagents used in flotation plants in 1975. This survey study is conducted every five years to assess trends in automation, new equipment, and new reagents in this important industry.

- Ferrous Scrap Availability - 1975-85--This is the product of a contract and is now an open file report. It compares the demand for ferrous scrap with the newly available supply on a State to State basis.

- Regional Guides--Series of six. These colorful, illustrated booklets, identifying historic and modern sites associated with minerals or minerals production within a given geographical area, aid State and local officials, Chambers of Commerce, and mining firms in answering questions and telling the story of minerals and their development.

Cooperative Services--Because the Bureau has developed the Federal Government's principal worldwide comprehensive mineral information system, requests for assistance from other agencies, at the Federal, State, and local levels, and mineral business concerns are a daily occurrence. The following are indicative of some of these cooperative services:

- Assistance to the Federal Preparedness Agency

-- Served on the working committees of the Interagency Stockpile Study. These activities produced the new stockpile policy and procedures for calculating stockpile inventory requirements which were approved by the President.

-- Developed indepth study (over 100 pages) of projected production capacity of stockpile minerals: 1976-1980.

-- Assessed the economic viability of establishing a domestic flake graphite industry as an alternative to stockpiling.

- Developed 5-year forecasts of the supply and demand for phosphate rock in the United States which, with similar data from other producing and consuming countries, was used to produce a world supply/demand forecast by the International Phosphate Industry Association. A report "International Trade in Phosphate Rock, Present and Projected to 1985" was prepared and published under a Bureau contract.

- Prepared a report on tar sands for the National Gas Survey conducted under auspices of the Federal Power Commission.

- Prepared substantial inputs to the Annual Report of the Secretary of the Interior under the Mining and Minerals Policy Act of 1970.

- Provided assistance in the preparation and review of the "International Economic Trends" compiled by the Federal Statistical System.

- Initiated "Status of the Mineral Industries", an annual chartbook dealing with various trends in the mineral industries; also prepared and distributed a slide presentation corresponding to the "Status" chartbook. These visual presentations are used widely for information and planning purposes.

- Monitored, in a cooperative effort with the Mining Enforcement and Safety Administration, the Nation's coal production during the wildcat strike of July-August, 1976. The information was collected and published weekly.

- Assessed for the Secretary of the Interior the impact of North Slope crude oil on the West Coast when the pipeline output reaches 1.2 million barrels per day in 1978. The study also identified possible alternatives for the distribution of this crude oil.

- Provided the Federal Energy Administration (FEA) Interagency Task Force on the Northern Tier Study data on petroleum demand relationship between and within refinery districts. These data were used to evaluate the economic consequences for each of the proposed supply alternatives.

- Cooperated in the National Petroleum Council (NPC) study of oil recovery by providing cost data for drilling and completion activities, oilfield equipment, and annual operations associated with onshore primary and secondary oil recovery. These data were incorporated in an enhanced recovery quantification model for a variety of production methods. The NPC published this information at the end of 1976 under the title, "Enhanced Oil Recovery".

- Participated in a study of the "Alaskan Natural Gas Transportation Systems" by Department of the Interior.

- Supplied the Federal Energy Administration (FEA) with monthly data collected under the Joint Petroleum Reporting System (JPRS). Under JPRS, the Bureau collects monthly data on petroleum refining operations, bulk terminal stocks of petroleum products, pipeline movements and stocks of petroleum products, and stocks of crude oil. Data collected are those used by both agencies. Prior to January 1976, duplicate data were collected by both the Bureau and

FEA. The new system has reduced the reporting burden on industry while providing both agencies with meaningful data on a timely basis. Because this combined effort has been so successful, it is anticipated that in the future additional types of data will be jointly collected and shared.

- Prepared United States section of the United Nations report on oil shale.

- Participated in several advisory committees and task forces for the Federal Power Commission in a program to analyze natural gas supply and consumption. These groups developed reports which will be incorporated in a FPC publication scheduled for completion in 1977.

- Coordinated for the UN and AID assignments in specialized mining and metallurgical training for 20 foreign trainees.

- Cosponsored a symposium on fossil fuels at Boston College at which the current New England energy status was assessed. Senior Bureau professionals played lead roles in this meeting attended by 200-300 persons.

5. Mineral Land Assessments: Fiscal Year 1977, $4,306,000; Fiscal Year 1978, $5,403,000; increase of $1,097,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) $1,097,000	+13	$3,560,000	69	Wilderness and Public Land Assessments - Enhance the development of mineral-related information in land decisions.
(B) --	--	1,843,000	67	Engineering and Environmental Investigations - No change.
$1,097,000	+13	$5,403,000	136	

Program Description

Regional mineral assessments are made on potential wilderness and other public lands. These assessments serve as invaluable inputs for land use planning and decisions. Assistance in resolving environmental and engineering problems associated with maintaining adequate supplies of minerals is provided through technical and economic information and analyses. These are accomplished through investigations, study projects, review of formal and informal environmental impact statements, and serving on interagency committees and land use planning groups. A national core repository is maintained, and various public and private individuals and groups are provided advice, consultation, and technical assistance. These efforts support the following goals:

- To evaluate the Nation's land base relative to its availability for mineral development.
- To conduct studies and provide technical assistance to other agencies, State and local governments, and industry on mineral engineering, technological and related environmental problems that affect minerals availability.

A. Wilderness and Public Land Assessments

Fiscal Year 1977, $2,463,000; Fiscal Year 1978, $3,560,000; increase of $1,097,000.

Major Program Changes

(1) Land Use Decisions +$1,097,000; total $1,097,000
+13 positions; total 13 positions

Proposal. To assist the major Federal land managing agencies with mineral information on public lands so that a minerals perspective can be factored into the preparation of their land-use management plans.

Justification. The responsibility for deciding whether public lands should have a single or multi-use function is spread over many Federal agencies. Much of the information, particularly in the area of minerals, necessary for these agencies to make sound decisions is not readily available. There is growing evidence that mineral exploration and development is being severely restricted on over half of the lands owned by the Federal Government and in many cases this is being done either because of a lack of information or appreciation for national mineral needs and policies.

The increase will be used to evaluate the effects on minerals availability of completed Forest Service and Bureau of Land Management land use plans by office and pilot type field studies, and will provide the land managing agencies with Bureau-collected and derived data for future planning. This interplay will lead to policies and practices which will help to insure that future restrictions on mineral exploration and development will be made only after a balanced and informed consideration of the benefits and costs of such restrictions.

Exclusive of Alaska, Forest Service is charged with preparing land-use plans for 1,300 planning units and Bureau of Land Management is preparing management framework plans for 642 units. The total amount of land which these units aggregate is about 380 million acres. To date, Forest Service has completed 175 planning units and as part of the NEPA process the Bureau of Mines has reviewed 150 after completion of the land use planning stage. Additional Bureau input is essential for framing land management plans.

Cost Factors. The increase will provide for 13 permanent positions for 10 months, $202,600; other than permanent positions, $133,200; personnel benefits, $34,300; travel, $10,000; transportation, rent, communications, supplies, and equipment, $79,000; and grants and contractual services, $637,900.

Subactivity Description

Long-Term Goals

- To conduct mineral evaluations of public lands identified under the Wilderness Act of 1964 and the Eastern Wilderness Act of 1974.
- To conduct mineral evaluations of public lands under the Federal Land Policy and Management Act.

Fiscal Year 1978 Objectives

- To complete wilderness investigations on 1.5 million acres of land specified for study by the Forest Service and other agencies.
- To conduct three sets of mineral evaluation studies involving the 175 completed Forest Service planning units, BLM's Management Framework Planning (MFP) System, and the Overthrust Belt Area.

Alternatives and Strategy

Approximately one-third of the Nation's land mass is owned by the Federal Government. Because of their vast size and wealth of natural resources, the management of these lands has an increasingly important impact on the social, economic, and environmental affairs of our Nation. Land use decisions can assist or hinder implementation of the national minerals policy. Consequently, a thorough assessment of the minerals availability on these lands is needed.
The very nature of the problem prohibits assessment by private interests as a viable alternative. Those Federal agencies making decisions on the use of public lands quite often have limited resources to adequately evaluate their mineral potential. Conversely, an integral element of the Bureau's program is involvement in various aspects of mineral resource evaluations oriented toward land planning. These include studies of Wilderness-type areas, Indian reservations, and river basins. This source of mineral resource information gives decisionmakers an appreciation for the impact of their actions on the restriction or encouragement of mineral development.

Program of Work

Mineral assessments are made with both regional and commodity emphasis to identify the sources and availability of minerals and fuels. These serve as inputs for

those decisionmakers given the responsibility for land use planning and decisions, particularly public lands. The specific activities in FY 1978 include:

- Wilderness Investigations--In FY 1978 studies will be conducted on 1.5 million acres bringing the total to over 18 million acres. The per acre cost of these studies will vary from $1.25 to $4.00 depending upon the size, complexity, and accessibility of the area. A typical study includes:

  -- Courthouse mining claim searches to document past exploration and mining activities.

  -- Documentation of past production from public and company records.

  -- Fieldwork to locate, sample, and map mining claims and workings.

  -- Analysis of samples and determination of possible extensions of mineralized structures by geophysical techniques.

  -- Collection and evaluation of assay and metallurgical data on past and ongoing exploration by private industry.

  -- Engineering sampling on potential ore occurrences shown by Geological Survey geochemical sampling.

  -- Minability and metallurgical studies where significant resources are known to be present.

These studies, conducted with the Geological Survey, provide site-specific information concerning reserves and grade resulting in a reasonably accurate evaluation of an area's mineral reserves and paramarginal resources. Published as Geological Survey Bulletins, the joint evaluations are used by the Forest Service in determining ing wilderness area boundaries, by Congress in its decisions on wilderness suitability, and by the mining industry.

Forest Service Plans. As part of his responsibility under the Mining and Minerals Policy Act, the Secretary of the Interior recently established a Task Force on Mineral Lands Availability. The restrictions imposed by land use planning by Federal land managers is unique in the case of the Forest Service where authority for surface and subsurface management is split between Agriculture and Interior. In its recent report to Congress, "Need to Develop a National Non-Fuel Mineral Policy," GAO pointed out that Interior must make greater efforts to evaluate the effects of legislation and the policies of other agencies on the availability of non-fuel minerals. One of the most basic needs of the minerals industry is access to public lands. At lease, it must have the knowledge of where access is not permitted. This portion of the proposed study will evaluate the restrictions on mineral availability prescribed by the 175 completed Forest Service planning units.

Management Framework Plans. Under an agreement with BLM, the Bureau will provide direct minerals input to BLM's Management Framework Planning (MFP) system and the Department's land withdrawal process. The Assistant Secretary--Land and Water Resources has recently asked for joint Bureau of Mines-Geological Survey guidelines to set up a formal means by which these two bureaus can make onsite examinations of reserve/resource potential in terms of economic recoverability.

Overthrust Belt. Approximately 150,000 square miles in the Overthrust Belt Area will be evaluated to assess the availability of such land for oil and gas leasing and for mineral development under mining laws. The Overthrust Belt covers a 650-by-100-mile overthrust disturbed belt that stretches across Utah, Wyoming, Idaho, and Montana. Based on recent oil and gas discoveries this area potentially has the most important new oil and gas province in the continental U.S. within the last 10-20 years. A status review of public lands within the belt indicates that

MINERAL LAND APPRAISALS BY BUREAU OF MINES FIELD TEAMS

ACCESS TO REMOTE AREAS

EXAMINATION OF CLAIMS

DETAILED SAMPLING

137

up to 44 percent of these acres are closed or restricted for oil and gas leasing. The increase will support an evaluation of 150,000 square miles of land (mostly public) to determine the availability of such land to oil and gas leasing and to entry under the mining laws. These evaluations will include historical mining records search, past and current drilling and exploration activities, and similarity of geologic conditions.

Benefits

- Documentation of the effects of land withdrawal on mineral development for making more informed land use decisions.
- Expanded information concerning mineral potential at regional levels.

Constraints

- Additions to the wilderness system without an extension of the mineral assessment deadline would increasingly limit the scope and depth of the evaluation.
- Lack of qualified contractors could delay schedules.

Program Effectiveness

Per acre costs are maintained regularly for the wilderness program. These costs reflect the size, complexity, and accessibility of the area being assessed and include such factors as the need for additional safety equipment and inflationary rates for helicopter services. Because these conditions are in a continual state of flux they are reviewed and revised on a cyclic schedule for better program and budgetary planning.

B. Engineering and Environmental Investigations

Fiscal year 1977, $1,843,000; Fiscal Year 1978, $1,843,000; no change.

Major Program Changes

No change.

Subactivity Description

Long-Term Goals

- To conduct engineering and technological investigations of reserve availability and production problems.
- To provide advice and comment on environmentally-related mineral and fuel issues

Fiscal Year 1978 Objectives

- Review an estimated 850 environmental impact statements to determine the extent of mineral involvement and to make available mineral resource information for these and future decision documents.
- Perform mineral and mineral economic related river basin studies on areas as specified by various river basin commissions.
- Provide high quality advice, consultation, and technical assistance in response to public and private sectors on engineering and enviromental problems related to mineral supply.

- Collect, log, and analyze 60,000 feet of core as part of a national Core Repository System (CORES).

Alternatives and Strategy

Mineral availability and production problems related to technical, economic, social, and environmental issues require continuous investigation and evaluation which must take into account such factors as viewing each problem in its total context and considering all alternatives. These problems cannot be dealt with adequately on an individual basis by those immediately affected. Too often the answers are limited and short-sighted. Contracting as the need arises is a costly and time-delaying venture. On the other hand, the Bureau of Mines with its staff of highly qualified professionals brings to these investigations and evaluations a consistent approach and methodology and an appreciation of the balance required between a good environment and a sound mineral development.

Program of Work

This subactivity supports engineering and technological investigations of resource availability and production problems. These studies include technical, economic, social, and environmental factors associated with specific mining, metallurgical, ceramic, energy generation, and recycling systems. Cooperative and advisory services are provided industry, and state and local governments. In addition, advice and comment on environmentally-related mineral and fuel matters are provided through interagency committees, local/state/Federal land use planning groups, and reviews of formal or informal environmental impact statements as directed by the National Environmental Policy Act of 1969. Planned Activities for FY 1978 are:

- National Core Repository System (CORES). In FY 1978 work will augment the national core repository by collecting, logging, and analyzing 60,000 feet of core. This repository:

  --Solicits and preserves splits of significant core and cuttings from industry and Government.

  Correlates and maintains up-to-date drill hole logs.

  --Conducts analytical work on cores and cuttings.

  --Makes cores, cuttings, and logs available for examination.

  --Publishes and updates a catalog of available samples.

- Environmental Mineral Involvement. Insuring an adequate mineral supply to meet future needs while preserving the quality of our environment, is a fundamental priority of our Nation. In support of this priority, the Bureau provides input and comment on environmentally-related mineral and fuel matters through interagency committees, local-state-Federal land use planning groups, replies to public inquiries, and involvement in review of formal or informal environmental impact statements. Based on past experience, it is estimated that in FY 1978 there will a review of 850 environmental impact statements requiring 16 man years of effort.

- River Basin Studies. These will be cooperative studies of land areas identified by the various river basin commissions. They will identify the water requirements for mineral development in these areas and the land use and environmental problems related to such development. Based on recent experience and trends, resource requirements for FY 1978 will be the same as FY 1977.

- Advice, Consultation, and Technical Services. These services include:

--Conducting, under the State Cooperative Program, field and laboratory assessments, economic studies, and mineral appraisals which are of mutual interest to the Federal Government and state agencies.

--Responding to specific requests for information, inquiries, and problems.

--Assisting in prompt responses to local, state, and regional inquiries through the four field offices in dispersed locations.

Benefits

- Increased use of mineral information during the development of environmental impact statements in contrast to an "after-the-fact" review of a completed document.

- A national core repository that will assist industry in mineral exploration, the Federal Government in land use decisions, and the Bureau of Mines in its research program planning.

Constraints

- Access to proprietary information has been somewhat hindered by the Freedom of Information Act. Specific exclusion of mineral related information from provisions of this Act would provide easier access to quality information held by private parties.

Program Effectiveness

In FY 1978, a review will be made of the Bureau's participation in commenting on other agency environmental impact statements. This review will assess the following issues:

- In what situations and why has the Bureau been most effective and least effective as spokesman for the minerals perspective?

- How can the Bureau be most effective in influencing the EIS process?

Examples of Recent Accomplishments
Wilderness and Public Land Assessments

Through September, 1976, the Bureau wilderness studies were completed on about 16.8 million acres of the currently identified 40.6 million acres. The 34 national forest primitive area studies have been completed. The Bureau, in a joint effect with the U.S. Geological Survey, and as a service to the Bureau of Indian Affairs, is conducting studies on Indian reservations to assist the tribes and the Bureau to make better informed decisions concerning mineral development. As of December 31, 1976, 28 Phase I studies (literature search) have been completed. Phase II studies (onsite evaluations) are underway on eight reservations: Flathead, Fort Belknap, Goshut, Laguna, Papago, Pine Ridge, Spokane, and Unita-Ouray.

Three special studies were made to determine the availability of Federal land for mineral research and development. A study of the State of Utah showed that mineral development is closed or restricted on 32 percent of all Federal lands. A study of 16,000 square miles that is part of the Overthrust Belt area of Utah, Wyoming, and Idaho where major new oil and gas discoveries were recently made showed that 47 percent of all Federal lands were effectively closed to oil and gas development. A study of about 10,000 square miles of the Northern Cascades area in Washington where there is a significant potential for hard rock mineral discoveries showed that mineral development is prohibited or severly restricted on 64 percent of Federal land.

Engineering & Environmental Investigations

- Over 800 environmental impact statements were reviewed to determine the extent of mineral involvement, to ascertain whether mineral resources were adequately considered, or to provide mineral resource information to these and future documents.

- Six River Basin reports were published. Of these, three were mineral examinations of proposed reservoir sites.

- Coal reserve base data for the Fuels Availability System (FAS) were updated for eight western states.

- Two major fuel studies were published as Information Circulars: Projects To Expand Fuels Sources In Eastern States and Projects To Expand Fuel Sources In Western States. These studies list fuels-related projects that are presently under construction, planned, or proposed by various companies and organizations. These projects are identified by state and are plotted on maps for ready reference.

6. Program Administration: Fiscal year 1977, $8,613,000; fiscal year 1978, $10,703,000; increase of $2,090,000. The increase consists of:

	Program Administration Appropriation 1/	Common Program Services Assessment 2/	Total Program
Fiscal year 1977	$1,545,000	$7,068,000	$ 8,613,000
Fiscal year 1978	2,830,000	7,873,000	10,703,000
Increase	+1,285,000	+805,000	+2,090,000

	Increase (+) or Decrease (-) Amount	Positions	Program	Positions	Explanation
(A)	$ +27,000	--	$ 1,010,000	31	Executive Direction.
(B)	+778,000	--	8,339,000	248	Administrative Services.
(C)	+1,000,000	--	1,000,000	--	Employee Workplace Health and Safety.
(D)	+285,000	--	354,000	--	Employee Compensation Payments.
	+2,090,000	--	10,703,000	279	

1/ Direct appropriation.
2/ Derived from charges to program funds appropriated directly or transferred from other agencies.

Program Description

This activity provides funds for: (1) executive direction and administrative services for the Bureau of Mines; (2) initiating an Employee Workplace Health and Safety Program, which is to upgrade Bureau-owned and maintained facilities in order to comply with Occupational Safety and Health Administration standards and administrative directives; and (3) reimbursement to the Department of Labor for employee compensation payments.

A breakdown of the source of funding is as follows:

Source of Funding

	Amount Available FY 1977	Estimate FY 1978	Increase (+) or Decrease (-)
Mines and Minerals:			
Direct Administrative Funding:			
Program Administration:			
General Administration	1,476,000	1,476,000	--
Employee Workplace Health and Safety	--	1,000,000	$+1,000,000
Employee Compensation Payments.	69,000	354,000	+285,000
Total Program Administration	1,545,000	2,830,000	1,285,000

Source of Funding--Continued

	Amount Available FY 1977	Estimate FY 1978	Increase (+) or Decrease (-)
Other Administrative Funding:			
Metallurgy Research	1,041,000	1,209,000	+168,000
Mining Research	4,510,000	4,957,000	+447,000
Mined Land Demonstrations	177,000	195,000	+18,000
Data Collection and Analysis.	650,000	770,000	+120,000
Mineral Land Assessments	185,000	237,000	+52,000
	6,563,000	7,368,000	+805,000
Total Mines and Minerals	8,108,000	10,198,000	+2,090,000
Helium Fund	10,000	10,000	--
Contributed Funds, Transfer Funds, and Working Funds	495,000	495,000	--
Total	8,613,000	10,703,000	+2,090,000

Program Funding

Subactivity	Amount Available FY 1977	Estimate FY 1978	Increase (+) or Decrease (-)
A. Executive Direction	$ 983,000	$1,010,000	+27,000
B. Administrative Services	7,561,000	8,339,000	+778,000
C. Employee Workplace Health and Safety	--	1,000,000	+1,000,000
D. Employee Compensation Payments	69,000	354,000	+285,000
Total	8,613,000	10,703,000	+2,090,000

Program Staffing

Subactivity	Positions FY 1977	Positions FY 1978	Increase (+) or Decrease (-)
A. Executive Direction	31	31	--
B. Administrative Services	248	248	--
C. Employee Workplace Health and Safety	--	--	--
D. Employee Compensation Payments	--	--	--
Total	279	279	--

A. Executive Direction

Fiscal year 1977, $983,000; fiscal year 1978, $1,010,000; increase of $27,000.

Major Program Changes

(1) Executive Direction	$+27,000; total $1,010,000 + 0 positions; total 31 positions

Proposal. The increase will provide increased programming for: the Office of the Assistant Director--Program Development and Evaluation; and the Office of Congressional and Legislative Affairs. The Office of the Director and the Office of Equal Employment Opportunity will be funded at the same level.

Justification and Cost Factors. The increase will be used for: personnel costs such as full-year funding of increased pay costs, full-year staffing costs, within-grade increases, and promotions.

Subactivity Description

This activity provides for:

- Executive Direction by the Office of the Director in conducting programs designed to conserve and develop mineral resources and to promote healthful working conditions in the mineral industry.
- Development, formulation, and evaluation of Bureau plans and programs, mission concepts, and objectives; planning and evaluation of the Bureau's long-range programs; and development, presentation, and execution of budgets.
- Congressional and legislative services.
- Administration of equal opportunity under civil rights laws and Executive Orders.

B. Administrative Services

Fiscal year 1977, $7,561,000; fiscal year 1978, $8,339,000; increase of $778,000.

Major Program Changes

(1) Administrative Services	$+778,000; total $8,339,000 + 0 positions; total 248 positions

Proposal. The increase will provide increased programming for: the Office of the Assistant Director--Administration; the Organization and Management Staff; the Office of Safety Management; the Division of Management Services; the Division of Personnel; the Division of Finance; the Division of Automatic Data Processing--Administrative; the Pittsburgh/Bruceton Administrative Office; postal services; telephone/TWX services; printing, duplicating, and photographic services; Departmental common services; detailed personnel; audit services; and building maintenance and services not provided for by standard space charges. The Worker-Training Opportunity Program will be funded at the same level.

B. Administrative Services--Continued

Justification and Cost Factors. The increase will be used for:

- Personnel costs such as full-year funding of increased pay costs, within-grade increases, promotions, overtime, and incentive awards, $261,000.
- Increases for transportation, rental charges, printing, supplies and materials, and equipment, $85,000.
- Purchase of microfiche and microfilm equipment, and Remote Terminal equipment--the latter is to be used to input data directly into computer rather than submission of batches for keypunch and entry into the computer by tape, $35,000.
- Increased costs for: postal services; telephone/TWX services; printing, duplicating, and photographic services; Departmental common services; audit services; and maintenance and building services not provided for by standard space charges, $397,000.

Subactivity Description

This subactivity provides for:

- Planning, programming, direction, and coordination of the administrative/management functions of the Bureau.
- Organizational and management analysis; and developing, counselling, and advising on Bureau organization and its modifications.
- Administration of the Bureau's occupational and environmental safety and health programs.
- Contracting for research and development, grants, other services, construction, equipment, and supplies.
- Recording, utilization, maintenance, and disposal of Government property; maintaining communication services, mail, and files.
- Planning, coordinating, and evaluating the Bureau's financial management program.
- Preparing financial reports; maintaining accounts for control of funds and recording assets, liabilities and income, and expenses.
- Maintaining payroll, retirement, and leave records.
- Management of the Bureau-wide automatic data processing systems and programs.
- Organization and staffing management.
- Recruiting, training, placing, classifying, and servicing employees.
- Worker-Training Opportunity Program.
- Bureau general services such as: miscellaneous services; postal services; telephone/TWX services; printing, duplicating, and photographic services; Departmental common services; detailed personnel; audit services; leased space; and Columbia Plaza building services.

C. Employee Workplace Health and Safety

Fiscal Year 1977, $0; Fiscal Year 1978, $1,000,000; increase of $1,000,000.

Major Program Changes

(1) Initiate Employee Workplace Health and Safety Program — $+1,000,000; total $1,000,000

Proposal. It is proposed to use the funds for:

- Improved dust control and collection systems in sample preparation rooms.
- Improved chemical fume hoods which will remove toxic fumes without creating a negative air pressure in the laboratories.
- Shielding of X-ray and other ultra short-wave-length generating devices and safety measures such as outside stairways, ladders, walkways, and smoke detectors.

Justification. The Bureau of Mines owns or maintains 12 separate research laboratories and field offices throughout the United States. Most of the buildings housing the work places of roughly 2,400 employees are old and were not designed for the purposes for which they are used today. A Bureau survey has identified numerous deficiencies in the safety and health of employee work areas. The funds will be used to initiate a program to upgrade Bureau-owned and maintained facilities to comply fully with the Occupational Safety and Health Administration standards and administrative directives.

Cost Factors. The increase of $1,000,000 is in contractual services.

Subactivity Description

More emphasis is being placed on providing safe and healthy work places for employees in all categories of work environments, particularly those who are exposed to fumes, dusts, gases, and various forms of radiation that are commonly associated with laboratories. A list of high priority projects has been prepared. The list includes projects to be completed with funds provided for this special purpose. With a few possible exceptions, the projects will be conducted by contractors who will install improved fume hoods, dust-collection systems, and extend fire-fighting water systems. Some of the older buildings were originally equipped with electrical wires, fuses, and switches that do not have the load-carrying capacity for electrical furnances, air conditioners, and other high-energy equipment. The wires, switches, and fuses will be replaced in buildings where overloading could cause fires and other hazards. Escape doors, stairs, and walkways will be installed in rooms, buildings, and areas where explosions, rapid fires, or other accidents could occur, forcing the need for rapid egress.

D. Employee Compensation Payments

Fiscal Year 1977, $69,000; Fiscal Year 1978, $354,000; increase of $285,000.

Major Program Changes

(1) Employee Compensation Payments — $+285,000; total $354,000

Proposal. The increase would be used to reimburse the Department of Labor, Bureau of Employees Compensation, for payments made because of injury or death of employees under the jurisdiction of the Bureau of Mines, as required by Section 209, Public Law 86-767.

83-561 O - 77 - 67

D. Employee Compensation Payments--Continued

Justification. The cost of compensation and medical benefits have increased over prior years due, in part, to higher salary levels which form the basis for compensation, mandatory cost-of-living increases, and the increased cost of medical care. Government-wide injuries have also increased over prior years and, more importantly, both initial claims for compensation and long-term disability and death cases have increased.

Cost Factors. The increase of $285,000 is in personnel benefits.

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

MINES AND MINERALS

For expenses necessary for conducting inquiries, technological investigations and research concerning the extraction, processing, use and disposal of mineral substances without objectionable social and environmental costs; to foster and encourage private enterprise in the development of mineral resources and the prevention of waste in the mining, minerals, metal and mineral reclamation industries; to inquire into the economic conditions affecting those industries; to promote health and safety in mines and the mineral industry through research; and for other related purposes as authorized by law, [$164,465,000, of which $97,779,000] shall remain available until expended: Provided, that no part of the sum herein appropriated shall be used for the field testing of nuclear explosives in the recovery of oil and gas [: Provided further, That the full-time permanent employees hired by the Bureau of Mines to staff the mining research center at Carbondale, Illinois, shall not be counted against or considered to be a part of any employment ceiling assigned to the Department of the Interior]. (30 U.S.C., 1-11, 21a, 551-558, 571, 951; 42 U.S.C., 3251-3259; Department of the Interior and Related Agencies Appropriation Act, 1977.)

$160,529,000, of which $95,938,000

MINES AND MINERALS

1. Justification for Change in Language

It is proposed that $95,938,000 of the fiscal year 1978 appropriation request be made available until expended. This amount is for activities as follows:

Metallurgy Research	
Uranium Ore Processing (included in Advancing Minerals Technology)	$ 1,140,000
Desulfurization of Stack Gas (included in Effecting Pollution Abatement)	934,000
Geothermal (included in Minimizing Mineral and Metal Needs)	542,000
Subtotal	2,616,000
Mining Research	
Coal Mine Health and Safety Research	30,000,000
Advancing Coal Mining Technology	55,081,000
Coal Preparation	5,020,000
Advancing Oil Shale Mining Technology	3,221,000
Subtotal	93,322,000
Total	$95,938,000

Appropriations for Coal Mine Health and Safety Research are authorized to be available until expended by P.L. 91-173 (Coal Mine Health and Safety Act of 1969). The balance of the amount requested for no-year funding is not authorized to substantive legislation. Appropriations for these energy-related areas of effort were, however, made available until expended in the FY 1975 Special Energy R&D Appropriation Act. In FY 1976 and in the FY 1977 appropriations, no-year funding was again made available for the same programs.

No-year funding is very urgently needed if the Bureau of Mines Metallurgy and Mining energy research programs are to operate at an optimum level of efficiency. These programs are complex systems-oriented activities which are strongly directed towards cost-sharing efforts with industry and large competitive and negotiated procurements involving substantial amounts of long lead-times. Because of the complexity of the negotiations and the level of detail of necessary review, the program effectiveness would be severely curtailed if annual funds had to be used. Following the pattern of FY 1975, FY 1976, and FY 1977, no-year funding is again requested to allow management flexibility and maximize the effectiveness of energy-related programs.

2. Justification for Change in Activity Structure

The Engineering, Evaluation and Demonstration activity has been split and divided between its component parts. The mining-related portion has been established as Mined Land Demonstrations. The supply/demand analysis portion has been established as Mineral Land Assessments. This change will bring the organization and budget structures into alignment while continuing to provide program visibility for these items.

BUREAU OF MINES

MINES AND MINERALS

Program and Financing (in thousands of dollars)

Identification code 14-0959-0-1-300	1976 act.	TQ act.	1977 est.	1978 est.
Program by Activities:				
Direct Program:				
1. Metallurgy research	21,744	3,876	28,700	27,300
2. Mining research	87,279	19,714	105,100	105,400
3. Mined land demonstrations	3,942	2,293	8,400	7,466
4. Data collection and analysis	15,417	3,431	16,000	16,960
5. Mineral land assessments.	5,138	991	4,251	5,000
6. Program administration	1,404	307	1,500	2,600
Total direct program	134,924	30,612	163,951	164,726
Reimbursable program:				
1. Metallurgy research	97	22	125	125
2. Mining research	52	17	75	75
3. Mined land demonstrations	10	--	--	--
4. Data collection and analysis	35	8	50	50
5. Mineral land assessments.	10	--	--	--
6. Program administration	333	28	200	200
Total reimbursable program	537	75	450	450
Total, program costs funded 1/	135,461	30,687	164,401	165,176
Change in selected resources (undelivered orders)	17,026	19,627	6,732	-4,197
10.00 Total obligations	152,487	50,314	171,133	160,979
Financing:				
Offsetting collections from:				
11.00 Federal funds	-537	-75	-450	-450
21.00 Unobligated balance available, start of period	-8,597	-15,464	-4,186	--
24.00 Unobligated balance available, end of period	15,464	4,186	--	--
25.00 Unobligated balance lapsing.	--	349	--	--
Budget authority	158,818	39,310	166,497	160,529
Budget authority:				
40.00 Appropriation	158,818	39,510	164,465	160,529
41.00 Transferred to other accounts	--	-200	--	--
43.00 Appropriation (adjusted) 2/	158,818	39,310	164,465	160,529
44.20 Proposed supplemental for civilian pay raises	--	--	2,032	--

Program and Financing (in thousands of dollars)--Continued

Identification code 14-0959-0-1-300		1976 act.	TQ act.	1977 est.	1978 est.
	Relation of obligations to outlays:				
71.00	Obligations incurred, net ..	151,950	50,239	170,683	160,529
72.00	Obligated balance, start of period	74,939	91,966	111,763	118,495
74.00	Obligated balance, end of period	-91,966	-111,763	-118,495	-114,298
77.00	Adjustments in expired accounts	-49	170	--	--
90.00	Outlays, excluding pay raise supplemental	134,874	30,612	162,000	164,645
91.20	Outlays from civilian pay raise supplemental .	--	--	1,951	81

1/ Includes capital outlays as follows: 1976, $4,914 thousand; T.Q. $1,594 thousand; 1977, $10,837 thousand; 1978, $7,929 thousand.
2/ Excludes $200 thousand in TQ transferred to Mining Enforcement and Safety Administration, Salaries and Expenses.

Object Classification (in thousands of dollars)

Identification code 14-0959-0-1-300		1976 act.	TQ act.	1977 est.	1978 est.
	Direct Obligations:				
	Personnel compensation:				
11.1	Permanent positions	40,611	10,567	44,934	45,594
11.3	Positions other than permanent	2,659	683	2,763	3,146
11.5	Other personnel compensation	513	136	550	562
	Total personnel compensation	43,783	11,386	48,247	49,302
12.1	Personnel benefits: Civilian	4,300	1,132	4,874	5,265
13.0	Benefits for former personnel	--	2	--	--
21.0	Travel and transportation of persons	2,230	658	2,605	2,625
22.0	Transportation of things ...	982	305	990	1,000
23.1	Standard level user charges.	2,330	516	3,213	3,429
23.2	Other rent, communi. & Util.	2,387	2,481	2,400	2,400
24.0	Printing and reproduction ..	763	225	800	800
25.0	Other services	82,731	29,927	89,317	80,369
26.0	Supplies and materials	4,025	907	4,200	4,210
31.0	Equipment	4,696	1,554	8,065	7,805
32.0	Lands and structures	181	40	2,124	124
41.0	Grants, subsidies, and contributions	3,581	1,100	3,200	3,200
44.0	Refunds	-39	6	--	--
	Total direct obligations .	151,950	50,239	170,035	160,529

Object Classification (in thousands of dollars)--Continued

Identification code 14-0959-0-1-300		1976 act.	TQ act.	1977 est.	1978 est.
	Reimbursable Obligations:				
	Personnel compensation:				
11.1	Permanent positions	392	62	254	258
12.1	Personnel benefits: Civilian	42	7	26	26
21.0	Travel and transportation of persons	8	2	43	43
22.0	Transportation of things	7	--	8	8
23.2	Other rent, communi. & util.	22	1	22	22
24.0	Printing and reproduction	1	1	3	3
25.0	Other services	50	1	69	65
26.0	Supplies and materials	27	4	25	25
31.0	Equipment	1	1	--	--
44.0	Refunds	-13	-4	--	--
	Total reimbursable obligations	537	75	450	450
	Total obligations, Bureau of Mines	152,487	50,314	170,485	160,979
	ALLOCATION TO GENERAL SERVICES ADMINISTRATION				
32.0	Lands and structures	--	--	648	--
99.0	Total obligations	152,487	50,314	171,133	160,979

Personnel Summary

Identification code 14-0959-0-1-300	1976 est.	1977 est.	1978 est.
Direct:			
Total number of permanent positions	2,535	2,585 1/	2,609
Full-time equivalent of other positions	398	339	377
Average paid employment	2,853	2,832	2,889
Average GS grade	9.14	9.16	9.16
Average GS salary	$17,480	$18,575	$18,683
Average salary of ungraded positions	$13,659	$15,184	$15,282
Reimbursable:			
Total number of permanent positions	6	6	6
Average paid employment	6	6	6
Average GS grade	9.14	9.16	9.16
Average GS salary	$17,480	$18,575	$18,683
Average salary of ungraded positions	$13,569	$15,184	$15,282

1/ Includes 50 positions, exempt from ceiling, for Carbondale Mining Research Center.

BUREAU OF MINES

Mines and Minerals

(Supplemental now requested, additional authorizing legislation required)

For an additional amount for "Mines and minerals", $5,178,000: Provided, That $5,128,000 for the purchase and renovation of a building to serve as a replacement for the Salt Lake City Metallurgy Research Center shall remain available until expended and shall become available only upon enactment into law of authorizing legislation.

Program and Financing (in thousands of dollars)

Identification code 14-0959-4-1-300	1976 act.	TQ act.	1977 est.	1978 est.
Program by activities:				
1. Metallurgy research	--	--	4,328	--
2. Data collection and analysis	--	--	50	--
Total program costs, funded	--	--	4,378	--
Change in selected resources (undelivered orders and inventories)	--	--	800	--
10.00 Total obligations	--	--	5,178	--
Financing:				
40.00 Budget authority (proposed supplemental appropriation)	--	--	5,178	--
Relation of obligations to outlays:				
71.00 Obligations incurred, net	--	--	5,178	--
72.00 Obligated balance, start of period	--	--	--	800
74.00 Obligated balance, end of period	--	--	-800	--
90.00 Outlays	--	--	4,378	800

Bureau of Mines
FY 1977 Supplemental Appropriation Request
Justification

A supplemental appropriation is requested for FY 1977 in the amount of $5,178,000. This includes $5,128,000, to be available until expended, for acquisition of replacement facilities for the Salt Lake City (Utah) Metallurgy Research Center and $50,000 to initiate studies in ocean mineral resource assessment and economics.

Salt Lake City Metallurgy Research Center

An additional $5,128,000 is requested under the Mines and Minerals appropriation to be available until expended for purchasing, altering, and equipping the property presently known as Ajax Presses Building, Salt Lake City, Utah, as a replacement facility for the Bureau of Mines Salt Lake City Metallurgy Research Center, to be provided for upon enactment of proposed amendment to P.L. 92-287 approved May 1, 1972.

The present research center is centrally located on the campus of the University of Utah. A critical shortage of laboratory space now exists on the campus as various departments undertake new research programs, especially in the energy development field. As a consequence, additional laboratory space is being sought by the University. Both the University and State of Utah have expressed great interest in purchasing the Bureau facility as part of its planned expansion and development of its Mines and Engineering School complex. In light of the rapid escalation of costs for new construction, an existing facility suitable for our needs in the immediate Salt Lake City area was sought as a possible alternative. As a result, a relatively new building complex, the Ajax Presses Building, came to our attention as a suitable replacement facility. This property is only four miles from the present location and consists of two adjoining one-story structures occupying a total of 182,000 square feet. The building complex is situated on 14.225 acres of land. Acquisition of this property would facilitate the early implementation of relocating and would enable the University to purchase the Bureau facility.

Purchase price of the Ajax building and land is $2.77 million. Renovation of the facility as special purpose space would cost an additional $1.35 million. Another $1.01 million would be required for other associated startup costs. There would be no cost for moving personnel. There would be no programmatic impact from the proposed move as well as no disruption or loss of employees. Transfer of research groups and equipment would be made in an orderly and effective manner at minimum cost to the Government.

Public Law 92-287 authorized funds to be appropriated, not to exceed $6,000,000, for the engineering, design, and construction of a replacement facility. In fiscal year 1975, $700,000 was appropriated for planning and design of the replacement facility. Since enactment of P.L. 92-287, the estimated construction cost has nearly doubled. In an attempt to reduce the total cost, we reviewed critically our facility space requirements and the options open to us for replacing the Salt Lake City facility in a cost-effective manner.

A careful analysis of the economic and social aspects of the various options leads to the conclusion that purchase of the now vacant Ajax Presses Building is the most cost-effective and most desirable option open to the Bureau. Additionally, it retains most of the special advantages of the present location in the University campus. There would be no change in Congressional jurisdiction. It should be emphasized that this opportunity must be acted upon swiftly because the property is on the open market and may be sold at any time.

In order to purchase the Ajax Presses Building, an amendment to P.L. 92-287

is desired. Amendment of this law would authorize funds to be appropriated for purchase and renovation of the facility (not to exceed $6,000,000) and authorize conveyance of the present center to the University upon the Bureau's relocation, subject to the payment of an amount equal to the fair market value of the present facilities.

Ocean Mineral Resources

An additional $50,000 is requested to initiate a comprehensive assessment of the deep sea manganese nodule resource position, based on data available from Government, universities, and industry. This assessment will identify the quantity and quality of the resources by geographical location. Consideration will be given also to the factors and problems of eventual conversion of these resources to economic reserves. In addition, a preliminary supply/demand study of the minerals that are critical to the viability of an ocean mining industry will be conducted.

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

Administrative Provisions

The Secretary is authorized to accept lands, buildings, equipment and other contributions from public and private sources and to prosecute projects in cooperation with other agencies, Federal, State, or private: Provided, That the Bureau of Mines is authorized during the current fiscal year, to sell directly or through any Government agency, including corporations, any metal or mineral product that may be manufactured in pilot plants operated by the Bureau of Mines, and the proceeds of such sales shall be covered into the Treasury as miscellaneous receipts.

Explanation of Administrative Provisions

Contributions. Various industrial organizations have expressed interest in many phases of the Bureau's activities and are at times willing to contribute funds, experienced personnel, special equipment, etc. toward accomplishing certain objectives useful to industrial purposes. The Bureau endeavors to cooperate with industry whenever possible and authorization to accept such contributions is a distinct aid in furthering such cooperation.

Sale of metals and mineral products. In some of the metallurgical pilot plants of the Bureau, quantities of special metals may be manufactured which might be of value to industrial concerns. Funds received from the sale of such products would be covered into miscellaneous receipts.

BUREAU OF MINES

MISCELLANEOUS APPROPRIATIONS

Program and Financing (in thousands of dollars)

Identification code 14-9911-0-1-306		1976 act.	TQ act.	1977 est.	1978 est.
	Program by activities:				
	1. Drainage of anthracite mines (program costs funded)....	--	--	200	200
10.00	Total obligations (object class 41.00)	--	--	200	200
	Financing:				
17.00	Recovery of prior year obligations	-5	-35	--	--
21.00	Unobligated balance available start of period	-3,785	-3,790	-3,810	-3,610
24.00	Unobligated balance available end of period	3,790	3,810	3,610	3,410
25.00	Unobligated balance lapsing.	--	15	--	--
	Budget authority	--	--	--	--
	Relation of obligations to outlays:				
71.00	Obligations incurred, net ..	-5	-35	200	200
72.00	Obligated balance, start of period	35	30	--	--
74.00	Obligated balance, end of period	-30	--	--	--
90.00	Outlays	--	-5	200	200

BUREAU OF MINES

HELIUM FUND

(in thousands of dollars)

Estimated Income, 1977:	
Operations	$8,080
Estimated Income, 1978:	
Operations	8,827

Financial Summary

	Actual 1976	Estimate T.Q.	Estimate 1977	Estimate 1978
Income and Expenses (funded):				
Income:				
Sales of helium	$ 6,388	$ 1,073	$ 6,825	$ 6,825
Other income	2,348	739	1,255	2,002
Total income	8,736	1,812	8,080	8,827
Expenses:				
Production and sales	2,717	698	3,182	3,398
Administrative and other expenses	632	136	679	711
Total Expense	3,349	834	3,861	4,109
Net Income (funded)	5,387	978	4,219	4,718
Unobligated Balance, Start of period	11,362	12,344	12,514	11,202
Contract Authority	47,500	--	47,500	47,500
Contract, Authority (rescinded)	-47,500	--	--	--
Change in Selected Resources	-153	35	--	--
Total Funds Available	16,596	13,357	64,233	63,420
Capital Outlay:				
Crude helium for underground storage	3,035	770	3,124	3,794
Land, structures, and equipment	217	73	1,407	2,904
Capital transfer to general fund	1,000	--	1,000	1,000
Contract authority, unobligated balance lapsing	--	--	47,500	47,500
Total Capital Outlay	4,252	843	53,031	55,198
Unobligated Balance, End of period	12,344	12,514	11,202	8,222

Helium Fund: Fiscal year 1977, 0; fiscal year 1978, $47,500,000

On January 26, 1971, the Under Secretary of the Interior issued a determination to terminate the four helium conservation contracts. Thereafter, the United States District Court in Kansas enjoined the Government from taking any action leading to the termination of three of the contracts on the ground that the requirements of the National Environmental Policy Act had not been met. Pursuant to that ruling, the Bureau of Mines prepared and disseminated a final environmental statement. On January 12, 1973, the Court issued an oral ruling denying the Government's motion to dissolve the injunction, but interpreted the injunction as allowing the Secretary to proceed anew to determine whether or not to terminate the three conservation contracts. The Secretary of the Interior issued termination notices on February 2, 1973, effective April 4, 1973. Thereafter, the Government again moved to dissolve the injunction. On March 14, 1973, the District Court denied the motion. The Government appealed, and on October 19, 1973, the Court of Appeals for the Tenth Circuit reversed the judgment of the District Court and remanded the cause with directions to dismiss the action. On November 12, 1973, the Government ceased accepting helium for purchase from the three companies. The three companies notified the Government of their position that the contracts had not been validly terminated by the Government and filed suit in the U.S. Court of Claims. The matter of damages owing a fourth contractor for Breach of Contract has been in litigation in the Court of Claims since December, 1970. The trial judge in this case held that the company is entitled to $78 million in damages. On October 22, 1975, the full Court of Claims substantially reversed the trial judge by immediately reducing the award by $43 million and sending the matter back to the trial judge for consideration of possible further reductions. The company subsequently appealed to the Supreme Court. The Supreme Court on October 4, 1976, denied the company's Petition for a Writ of Certiorari.

Under authority of the Helium Act of 1960 (P.L. 86-777), the Bureau of Mines conducts the Government's helium program under two subprograms: conservation of helium through storage of crude helium for future use; and, production and sale of pure helium for current use of Federal agencies. Included in this work is an extensive project to locate and develop helium reserves.

As of June 30, 1976, 38,798 million cubic feet (MMcf) of helium was in underground storage in Cliffside Field near Amarillo, Texas. The helium pipeline system continues to be operated to store excess Bureau helium production and to accept, store, and redeliver helium under long-term storage contracts (25 years) with eight private companies. As a result of these contracts, helium is being stored by private industry at a rate of approximately 600 MMcf a year. The Exell, Texas, plant north of Cliffside Field is operated as necessary to accommodate Cliffside helium storage operations.

The Keyes, Oklahoma, plant continues to be operated for the production of pure helium. All shipments of helium in trailers and tank cars are from Keyes. Shipments of helium in small cylinders are made from the Bureau's Amarillo, Texas, shipping terminal. Helium for filling these small cylinders is shipped to Amarillo from the Keyes plant by tank car. Total helium production during FY 1977 is expected to be 359 million cubic feet. Sales for FY 1977 are expected to be 195 million cubic feet. The excess production will be transported by pipeline to Cliffside Field and stored for future use.

As of June 30, 1976, the total assets of the Helium Fund were $588.6 million of which $552.5 million represents helium inventories. The helium inventory consists of about 37.6 Bcf (billion cubic feet), 27.1 Bcf of which was purchased for conservation at an average price of $11.52 per Mcf (thousand cubic feet). An additional 7.1 Bcf was accepted from contractors under court order. 1/ The remainder, 3.4 Bcf, was produced at Bureau of Mines plants. The total assets include 2% in cash and accounts receivable, 4% in plants and equipment, and 94% in helium stored underground. Liabilities total $465.0 million of which $434.8 million is owed to the U.S. Treasury (largely principal and accumulated interest). The

Government equity as of June 30, 1976 is $123.6 million.

During 1978, it is proposed to repay $1 million of net worth debt to the U.S. Treasury from accumulated fund balances.

On September 30, 1978, the total assets of the Helium Fund are estimated to be $652.3 million with $615.6 million representing helium inventories. Total liabilities will be $527.7 million with $497.5 owed to the U.S. Treasury. The increase of $62.7 million in the amount owed the U.S. Treasury is accrued interest on borrowing and net worth for fiscal years 1976 and 1977. The Government equity on September 30, 1978, is estimated to be $124.8 million. The estimated increase from June 30, 1976, of $1.2 million in net Government equity results from an increase in retained earnings accrued during 1977 and 1978.

1/ Because of the legal determinations involved, no appropriation (borrowing authority) to the Helium Fund is being requested for use at this time to permit the liquidation of obligations that may or may not have been legally incurred under the three contracts.

BUREAU OF MINES

HELIUM FUND

Program and Financing (in thousands of dollars)

Identification code 14-4053-0-3-306	1976 act.	TQ act.	1977 est.	1978 est.
Program by activities:				
Operating costs, funded:				
1. Production and sales ..	2,717	698	3,182	3,398
2. Administrative and other expenses	626	136	679	711
3. Adjustment of prior year costs	6	--	--	--
Total operating costs	3,349	834	3,861	4,109
Helium stored underground:				
1. Crude helium produced for storage	1,565	404	1,932	1,976
2. Transmission and storage operations	1,470	366	1,192	1,818
Total costs, helium stored underground.	3,035	770	3,124	3,794
Capital outlay, funded: land structures, and equipment .	217	73	1,407	2,904
Total program costs funded	6,601	1,677	8,392	10,807
Change in selected resources (helium for sale, supplies, and deferred charges and undelivered orders)	152	-35	--	--
10.00 Total obligations	6,753	1,642	8,392	10,807
Financing:				
Offsetting collections from:				
11.00 Federal funds:				
Sale of helium	-6,388	-1,073	-6,825	-6,825
Other revenue	-1,461	-472	-1,205	-1,952
14.00 Non-federal sources:				
Sale of fixed assets	-887	-267	-50	-50
Unobligated balance available, start of period:				
21.47 Authority to spend public debt receipts	-3,127	-3,127	-3,127	-3,127
21.98 Fund balance	-8,235	-9,217	-9,387	-8,075
Unobligated balance available, end of period:				
24.47 Authority to spend public debt receipts	3,127	3,127	3,127	3,127
24.98 Fund balance	9,217	9,387	8,075	5,095
25.49 Unobligated balance lapsing: Contract authority	--	--	47,500	47,500
27.00 Capital transfer to general fund	1,000	--	1,000	1,000

Program and Financing (in thousands of dollars)--Continued

Identification code 14-4053-0-3-306		1976 act.	TQ act.	1977 est.	1978 est.
69.10	Budget authority (contract authority) (permanent) (50 U.S.C. 167: 74 Stat. 918)	--	--	47,500	47,500
	Relation of obligations to outlays:				
71.00	Obligations incurred, net	-1,982	-170	312	1,980
	Obligated balance, start of period:				
72.49	Contract authority	36,323	29,403	29,403	29,403
72.98	Receivables in excess of obligations, start of period (fund balance)	-1,013	-1,053	-975	-975
	Obligated balance, end of period:				
74.49	Contract authority (unfunded)	-29,403	-29,403	-29,403	-29,403
74.98	Receivables in excess of obligations, end of period (fund balance)	1,053	975	975	975
77.49	Adjustments in expired accounts (contract authority unfunded)	-6,920	--	--	--
90.00	Outlays	-1,942	-248	312	1,980

Status of Unfunded Contract Authority (in thousands of dollars)

Unfunded balance, start of period	36,323	29,403	29,403	29,403
Contract authority (permanent)	47,500	--	47,500	47,500
Contract authority rescinded (Public Law 94-111)	-47,500	--	--	--
Unfunded balance lapsing	--	--	-47,500	-47,500
Adjustments in expired accounts (Contract authority unfunded)	-6,920	--	--	--
Unfunded balance end of period	-29,403	-29,403	-29,403	-29,403

Revenue and Expense (in thousands of dollars)

Sales program:				
Revenue	7,849	1,545	8,030	8,777
Expenses (-)	6,681	1,509	6,997	8,735
Net operating income, sales program	1,168	36	1,033	42
Nonoperating income or loss (-):				
Proceeds from sales of fixed assets	887	267	50	50
Net book value of assets sold (-)	504	48	50	50
Net income for the period	1,551	255	1,033	42

Financial Condition (in thousands of dollars)

	1975 act.	1976 act.	TQ act.	1977 est.	1978 est.
Assets:					
Fund balance with Treasury	7,222	8,164	8,412	7,100	4,120
Accounts receivable, net	2,073	2,093	2,022	2,076	2,076
Advances made	1	1	4	1	1
Inventories	534,478	552,813	559,546	586,607	615,957
Real property and equipment, net	25,094	23,272	22,824	24,932	27,832
Other assets, net	2,483	2,234	2,275	2,299	2,304
Total assets	571,351	588,577	595,083	623,015	652,290
Liabilities:					
Accounts payable and funded accrued liabilities	37,082	29,768	29,848	29,805	29,805
Advances received	209	437	502	450	450
Debt issued under borrowing authority:					
Borrowing from Treasury	251,650	251,650	251,650	251,650	251,650
Net worth	33,645	32,645	32,645	31,645	30,645
Interest due on net worth and borrowing	126,667	150,471	156,950	184,944	215,177
Total liabilities	449,253	464,971	471,595	498,494	527,727
Government Equity:					
Unexpended budget authority:					
Authority to spend public debt receipts	3,127	3,127	3,127	3,127	3,127
Fund balance	7,224	9,217	9,387	8,075	5,095
Undelivered orders	92	238	104	250	250
Unfinanced budget authority:					
Borrowing authority	-3,127	-3,127	-3,127	-3,127	-3,127
Contract authority	-36,323	-29,403	-29,403	-29,403	-29,403
Invested capital	151,105	143,554	143,400	145,599	148,621
Total Government equity	122,098	123,606	123,488	124,521	124,563

Analysis of Changes in Government Equity

Paid in Capital:				
Opening balance	325	1,333	7,338	8,338
Transactions:				
Payment on net worth	1,000	--	1,000	1,000
To correct FY 1963 repayment to U.S. Treasury	--	6,000	--	--
Property capitalized without use of funds	8	5	--	--
Closing balance	1,333	7,338	8,338	9,338

Analysis of Changes in Government Equity (in thousands of dollars)--Continued

	1975 act.	1976 act.	TQ act.	1977 est.	1978 est.
Retained Income:					
Opening balance		121,773	122,273	116,150	116,183
Net income		1,551	255	1,033	42
Capital transfer		-1,000	--	-1,000	-1,000
To correct FY 1963 repayment to U.S. Treasury		--	-6,000	--	--
Other		-51	-378	--	--
Closing balance		122,273	116,150	116,183	115,225
Total Government equity (end of period)		123,606	123,488	124,521	124,563

Object Classification (in thousands of dollars)

Identification code 14-4053-0-3-306	1976 act.	TQ act.	1977 est.	1978 est.
Personnel compensation:				
11.1 Permanent positions	3,900	980	4,293	4,467
11.3 Positions other than permanent	50	2	62	121
11.5 Other personnel compensation	69	18	78	81
Total personnel compensation	4,019	1,000	4,433	4,669
Personnel benefits:				
12.1 Civilian	400	62	433	449
21.0 Travel and transportation of persons	66	12	95	95
22.0 Transportation of things	71	14	120	105
23.2 Other rent, communi. & Util.	316	40	383	512
24.0 Printing and reproduction	2	--	2	2
25.0 Other services	424	89	795	742
26.0 Supplies and materials	1,205	387	1,942	1,684
31.0 Equipment	90	73	189	2,549
44.0 Refunds	8	--	--	--
Total direct costs, funded	6,601	1,677	8,392	10,807
94.0 Change in selected resources	152	-35	--	--
99.0 Total obligations	6,753	1,642	8,392	10,807

Personnel Summary

Identification code 14-4053-0-3-306	1976 act.	TQ act.	1977 est.	1978 est.
Total number of permanent positions	264	--	264	264
Full-time equivalent of other positions	7	--	7	14
Average paid employment	257	--	253	260
Average GS grade	9.14	--	9.16	9.16
Average GS salary	$17,480	--	$18,575	$18,683
Average salary of ungraded positions	$13,659	--	$15,184	$15,282

BUREAU OF MINES

CONSOLIDATED WORKING FUND

Program and Financing (in thousands of dollars)

Identification code 14-3909-0-4-306	1976 act.	TQ act.	1977 est.	1978 est.
Program by activities:				
1. Metallurgy research	1,979	602	1,000	900
2. Mining research	2,207	1,431	1,004	1,100
3. Data collection and analysis	44	37	50	50
4. Mineral land assessments	261	265	750	1,950
5. Program administration	164	175	200	200
Total program costs, funded 1/	4,655	2,510	3,004	4,200
Change in selected resources (undelivered orders)	2,997	-338	--	--
10.00 Total obligations	7,652	2,172	3,004	4,200
Financing:				
Offsetting collections from:				
11.00 Federal funds	-6,882	-1,195	-2,500	-4,000
21.00 Unobligated balance available, start of period	-2,678	-1,907	-859	-355
24.00 Unobligated balance available, end of period	1,907	859	355	155
25.00 Unobligated balance lapsing	--	70	--	--
Budget authority	--	--	--	--
Relation of obligations to outlays:				
71.00 Obligations incurred, net	771	978	504	200
72.00 Obligated balance, start of period	462	3,443	3,656	2,472
74.00 Obligated balance, end of period	-3,443	-3,656	-2,472	-1,172
77.00 Adjustments in expired accounts	-12	-14	--	--
90.00 Outlays	-2,222	751	1,688	1,500

1/ Includes capital outlays as follows: 1976, $148 thousand; TQ, $99 thousand; 1977, $31 thousand, 1978, $78 thousand.

Object Classification (in thousands of dollars)

Identification code 14-3909-0-4-306	1976 act.	TQ act.	1977 est.	1978 est.
Personnel compensation:				
11.1 Permanent positions	2,942	1,121	2,171	2,187
11.3 Positions other than permanent	201	76	199	210
11.5 Other personnel compensation	43	17	42	52
Total personnel compensation	3,186	1,214	2,412	2,449

Object Classification (in thousands of dollars)--Continued

Identification code 14-3909-0-4-306		1976 act.	TQ act.	1977 est.	1978 est.
	Personnel benefits:				
12.1	Civilian	294	118	238	242
21.0	Travel and transportation of persons	48	12	40	48
22.0	Transportation of things	25	9	25	25
23.2	Other rent, communi. & util.	374	195	80	100
24.0	Printing and reproduction	4	2	4	4
25.0	Other services	2,931	391	64	1,144
26.0	Supplies and materials	376	148	110	110
31.0	Equipment	195	15	31	78
32.0	Lands and structures	27	--	--	--
41.0	Grants, subsidies, and contributions	192	46	--	--
44.0	Refunds	--	22	--	--
99.0	Total obligations	7,652	2,172	3,004	4,200

Personnel Summary

Total number of permanent positions	120	--	125	125
Full-time equivalent of other positions	31	--	25	25
Average paid employment	151	--	142	142
Average GS grade	9.14	--	9.16	9.16
Average GS salary	$17,480	--	$18,575	$18,683
Average salary of ungraded positions	$13,659	--	$15,184	$15,282

BUREAU OF MINES

CONTRIBUTED FUNDS

Program and Financing (in thousands of dollars)

Identification code 14-8287-0-7-306	1976 act.	TQ act.	1977 est.	1978 est.
Program by activities:				
1. Metallurgy research	678	228	560	740
2. Mining research	5	1	10	10
3. Mined land demonstrations	2	--	--	--
4. Data collection and analysis	11	4	30	50
5. Mineral land assessments	6	--	--	--
6. Program administration	2	--	--	--
Total program costs, funded 1/	704	233	600	800
Change in selected resources (undelivered orders)	-86	-73	--	--
10.00 Total obligations	618	160	600	800
Financing:				
17.00 Recovery of prior year obligations	-21	--	--	--
21.00 Unobligated balance available, start of period	-308	-368	-634	-634
24.00 Unobligated balance available, end of period	368	634	634	634
60.00 Budget authority (appropriation) (permanent, indefinite)	657	427	600	800
Relationship of obligations to outlays:				
71.00 Obligations incurred, net	597	160	600	800
72.00 Obligated balance, start of period	318	122	3	3
74.00 Obligated balance, end of period	-122	-3	-3	-3
90.00 Outlays	794	279	600	800

1/ Includes capital outlay as follows: 1976, $151 thousand; TQ, $92 thousand; 1977, $120 thousand; 1978, $160 thousand.

Object Classification (in thousand of dollars)

Identification code 14-8287-0-7-306	1976 act.	TQ act.	1977 est.	1978 est.
Personnel compensation:				
11.1 Permanent positions	303	41	105	106
11.3 Positions other than permanent	21	3	23	26
11.5 Other personnel compensation	4	--	4	4
Total personnel compensation	328	44	132	136

Object Classification (in thousands of dollars)--Continued

Identification code 14-8287-0-7-306		1976 act.	TQ act.	1977 est.	1978 est.
	Personnel benefits:				
12.1	Civilian	32	4	12	13
21.0	Travel and transportation of persons	13	1	5	15
22.0	Transportation of things	9	1	6	10
23.2	Other rent, communi. & Util...	13	--	12	13
24.0	Printing and reproduction	1	--	2	2
25.0	Other services	46	9	231	341
26.0	Supplies and materials	89	44	80	110
31.0	Equipment	68	57	120	160
44.0	Refunds	19	--	--	--
90.0	Total obligations	618	160	600	800

Personnel Summary

Total number of permanent positions	5		5	5
Full-time equivalent of other positions	3		3	3
Average paid employment	8		8	8
Average GS grade	9.14		9.16	9.16
Averags GS salary	$17,480		$18,575	$18,683
Average salary of ungraded positions	$13,659		$15,184	$15,282

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

ADMINISTRATION OF TERRITORIES

DEPARTMENT OF THE INTERIOR
TERRITORIAL AFFAIRS
ADMINISTRATION OF TERRITORIES

HIGHLIGHT STATEMENT

HIGHLIGHT STATEMENT

The fiscal year 1978 budget request for the account "Administration of Territories" totals $21,001,000, a decrease of $2,871,000 from fiscal year 1977.

American Samoa

The proposed 1978 appropriation for American Samoa is $20,501,000, a decrease of $2,371,000 from the current year. This proposed funding program provides $393,500 for the Governor's Office and $381,500 for the Judiciary. Federal grants for operations and construction totalling $19,726,000 complete this funding request.

Guam

The sum of $500,000 in grant funds is requested for Guam Economic Development as authorized in the Guam Development Fund Act of 1968. With this request a total of $4,500,000 will be available to its citizenry for the development of competitive business enterprises.

U.S. Comptrollers

The fiscal year 1977 budget provides new funding of $940,000 for the U.S. Comptroller, Virgin Islands, and $336,000 for the U.S. Comptroller, Guam. The funding for these activities are provided under the provisions of P.L. 90-497 and P.L. 90-496 and are included in the "Administration of Territories" account for budgetary purposes.

Status of Authorizations

No authorizations are currently pending for any of the above. However authorization for proposed FY 1977 supplemental for Guam assistance is required. Authorization for a proposed FY 1977 supplemental for grants to the Virgin Islands has been approved P.L. 94-392.

DEPARTMENT OF THE INTERIOR
TERRITORIAL AFFAIRS
ADMINISTRATION OF TERRITORIES

Appropriation, 1976	$22,000,000	
American Samoa, Second Supplemental	5,740,000	
Pay Act Supplemental	13,000	
Appropriation 1976		$27,753,000
Appropriation 1977	23,846,000	
Pay Cost Supplemental	26,000	
Total available 1977		23,872,000 1/

Summary of Increases and Decreases, 1978

	Base for 1978	Inc. 1978	
Guam:			
Guam Economic Dev. Fund	$1,000,000	-500,000	
American Samoa:			
Operating costs for the Governor's Office and Chief Justice and High Court	797,500	- 22,500	
Grants for Operations	22,074,500	-2,348,500	
Net Decrease 1978			-2,871,000
Budget Estimate, 1978			21,001,000

1/ Does not include proposed supplemental of $8,500,000 for grants to the Virgin Islands to offset tax revenue losses resulting from Tax Reduction Act of 1975 as provided in P.L. 94-392; and also a proposed supplemental of $11,200,000 for Guam assistance to repair and upgrade public facilities damaged by Typhoon Pamela in May 1976.

DEPARTMENT OF THE INTERIOR
TERRITORIAL AFFAIRS
ADMINISTRATION OF TERRITORIES

Reimbursable Program:

Reimbursed from "Internal Revenue Collections for Virgin Islands" (P.L. 90-496)	$975,000	
Reimbursed from "Guam SEC 30 funds" (P.L. 90-497)	600,000	
Reimbursement 1976		$1,575,000
Reimbursed from "Internal Revenue Collections for Virgin Islands" (P.L. 90-496)	620,000	
Reimbursed from "Guam Sec 30 funds" (P.L. 90-497)	441,000	
Reimbursement 1977		1,061,000

Summary of Increases and Decreases 1978

	Base for 1977	Inc. 1978
Government Comptroller V. I.	620,000	+320,000
Government Comptroller Guam	441,000	-105,000
Net Increase, 1978		+215,000
Reimbursement 1978		1,276,000

Analysis by Activity

Activity/Subactivity	F.Y. 1976 Amount Obligated	Fiscal Year 1977 Total Appropriation	Unobligated Balance	Pay Act Costs	Amount Available
Direct Program:					
1. Guam:					
(a) Loans	$1,022,493	---	$3,230,022	---	$3,230,022
(b) Grants	79,344	---	2,326,708	---	2,326,708
(c) Economic Development Fund	1,000,000	1,000,000	---	---	1,000,000
(d) Emergency grants	---	---	7,329,000	---	7,329,000
Subtotal Guam	2,101,837	1,000,000	12,885,730	---	13,885,730
2. American Samoa:					
(a) Governor's Office	326,735	403,000	39,926	10,000	452,926
(b) Chief Justice and High Court	223,474	376,000	100,476	8,500	484,976
(c) Grants	18,453,017	22,067,000	---	7,500	22,074,500
Subtotal American Samoa	19,003,226	22,846,000	140,402	26,000	23,012,402
TOTAL DIRECT PROGRAM	21,105,063	23,846,000 2/	13,026,132	26,000	36,898,132
Reimbursable Program:					
1. U.S. Comptroller, Virgin Islands	809,228	620,000	420,000	---	1,040,000
2. U.S. Comptroller, Guam	718,946	831,000 3/	239,000	---	1,070,000
TOTAL REIMBURSABLE PROGRAM	1,528,174	1,451,000	659,000 1/	---	2,110,000
GRAND TOTAL	22,633,237	25,297,000	13,685,132	26,000	39,008,132

1/ Unobligated balances in permanent accounts to be transferred to Administration of Territories to fund total program including pay act costs.

2/ Does not include FY 77 proposed supplemental of $8,500,000 for grants to the Virgin Islands as provided by P.L. 94-392, $11,200,000 for construction assistance to Guam is a result of typhoon Pamela in May 1976.

3/ Includes $390,000 for Trust Territory of the Pacific Islands audit activities.

ADMINISTRATION OF TERRITORIES

Analysis by Activity

Activity/Subactivity	FY 1976 Amount Obligated	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared w/ 1977	Page 2/ Reference
Direct Program:					
1. Guam:					
(a) Loans	$1,022,493	$3,230,022	$ ---	$-3,230,022	
(b) Grants	79,344	2,326,708	---	-2,326,708	
(c) Economic Development Fund	1,000,000	1,000,000	500,000	- 500,000	Terr. - 13
(d) Emergency Grants	---	7,329,000	---	-7,329,000	
Subtotal Guam	2,101,837	13,885,730	500,000	-13,385,730	
2. American Samoa:					
(a) Governor's Office	326,735	452,926	393,500	-59,426	Terr. - 29
(b) Chief Justice and High Court	223,474	484,976	381,500	-103,476	" 32
(c) Grants	18,453,017	22,074,500	19,726,000	-2,348,500	" 34
Subtotal American Samoa	19,003,226	23,012,402	20,501,000	-2,511,402	
TOTAL DIRECT PROGRAM	21,105,063	36,898,132 1/	21,001,000 2/	-15,897,132	
Reimbursable Program:					
1. U.S. Comptroller, Virgin Islands	809,228	1,040,000	1,120,000	+80,000	Terr. - 7
2. U.S. Comptroller, Guam	718,946	1,070,000	1,250,000	+180,000	Terr. - 14
TOTAL REIMBURSABLES	1,528,174	2,110,000	2,370,000 3/	+260,000	
GRAND TOTAL	22,633,237	39,008,132	23,371,000	-15,637,132	

1/ Does not include proposed FY 77 supplemental of $8,500,000 for grants to the Virgin Islands as provided in P.L. 94-392, and $11,200,000 for construction assistance to Guam as a result of typhoon Pamela in May 1976.

2/ FY 1978 estimate represents Budget Authority only vs. FY 1977 which represents budget authority and unobligated balance. Figures showned in detailed justification indicate increases and decreases between budget authority only.

3/ Represents total reimbursable program including prior year balances.

BUDGET AUTHORITY REQUESTED FOR FY 1978
ADMINISTRATION OF TERRITORIES
BY ACTIVITY

	FY 1976 Appropriated	FY 1977 Estimate	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared w/ 1977	Page Reference
Direct Program:					
Guam:					
Economic Development Fund....	$1,000,000	$1,000,000	500,000	-500,000	Terr. - 13
Total Guam	1,000,000	1,000,000	500,000	-500,000	
American Samoa:					
Governor's Office	397,000	413,000	393,500	- 19,500	Terr. - 29
Judiciary	330,500	384,500	381,500	- 3,000	" - 32
Grants	26,025,500	22,074,500	19,726,000	-2,348,500	" - 34
Total American Samoa	26,753,000	22,872,000	20,501,000	-2,371,000	
Total Appropriation Request (Budget Authority)	27,753,000 3/	23,872,000 1/	21,001,000	-2,871,000	
Reimbursable Program: (New funding request)					
U.S. Comptroller, Virgin Islands	975,000	620,000	940,000	+ 320,000	Terr. - 7
U.S. Comptroller, Guam	600,000	441,000 2/	336,000	- 105,000	Terr. - 14
Total Reimbursable Program	$1,575,000	$1,061,000	1,276,000	+ 215,000	

1/ Does not include proposed supplemental of $8,500,000 for grants to the Virgin Islands as provided in P.L. 94-392, and $11,200,000 for construction assistance to Guam as a result of typhoon Pamela in May 1976.

2/ Funds in the amount of $185,000 for the Transition Quarter and $256,000 for FY 1977 were approved, however actual transfer of $185,000 did not take place until the first month of FY 1977.

3/ Does not show funds proposed by the Department and the Administration of $20,000,000, and appropriated by the Congress in the Transition Quarter for emergency operations grants for Guam resulting from typhoon Pamela.

GOVERNMENT COMPTROLLER - VIRGIN ISLANDS

Comptroller's Office, Virgin Islands: Fiscal year 1977, $620,000; fiscal year 1978, $940,000 increase, $320,000.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
+320,000	-4	$940,000	32	Increase in new funding due to prior year unobligated balances which were applied to total program being used up.

	1976	1977	1978	Increase Decrease 78 Over 77
New authority	975	620	940	+320
Unobligated balance applied to budget program	25	420	180	-240
Total Program Requirement	1,000	1,040	1,120	+ 80
Full-time permanent positions authorized	36	36	32	- 4

Program Changes

$40,000 is provided in FY 1977 to cover increased pay act costs. $2,000 is provided in FY 1978 for annualization of pay act costs, $64,000 for full funding of 32 positions, and an increase of $20,000 in travel and transportation for change of duty stations.

PROGRAM DESCRIPTION

The Government Comptroller for the Virgin Islands is charged with the responsibility for audit of all revenues and expenditures of all departments and agencies of the Territorial Government of the Virgin Islands of the United States. In a law enacted in 1968 (P.L. 90-496, 82 Stat. 840) the Congress spelled out that the audit activities of the Government Comptroller should be directed so as to (1) improve the efficiency and economy of programs of the Government of the Virgin Islands and (2) discharge the responsibility incumbent upon the Congress to insure that the substantial Federal revenues which are covered into the treasury of the Government of the Virgin Islands are properly accounted for and audited. The Comptroller has adopted the audit standards established by the Comptroller General which are described in the booklet, "Standards for Audit of Governmental Organizations, Programs,

83-561 O - 77 - 69

Activities and Functions", issued by the Comptroller General in 1972. Beginning with the fiscal year 1976, this office has been assigned the responsibility for negotiating both the Government-Wide Cost Allocations and the Indirect Cost Rates for the respective departments/agencies of the Government of the Virgin Islands.

AUDITING

As disclosed by the attached Summary of Audit Workload as of October 1, 1976, the audit workload totalled 12,247 man days or approximately 56 man years. This is a 21% decrease from the backlog of 71 man yrs. at the end of the prior year. The reduction was due to the success of our efforts in recruiting additional staff and improvements in productivity.

Due to the reduction of our backlog and in the interest of reducing governmental expenditures, an overall staff reduction to 32 positions from the 36 authorized last year is being requested. We plan to limit the audit staff to 24 positions despite increases in workload by improvements in productivity through streamlining audits and by eliminating certain phases of audit work, which, based on surveys, will not warrant detailed examination when audit time required (cost) is compared to potential benefit.

It is not feasible to attempt to perform every audit on an annual basis and the audit work plan adopted provides for most regular audits to be done every three years unless there are urgent indications that a particular audit should be done earlier. Other regular audits of particular sensitivity must be done every year, and a number of additional regular audits must also be done each year because of Congressional and other mandate. Examples include the Annual Report, the Territory-Wide Cost Allocation Plan, and the Watch Quota Allocations.

The Governor's Budget recently projected the receipt of about $42 million Federal grants (including $17 million in Internal Revenue Matching Funds) during fiscal year 1977. We plan increased emphasis on auditing such grants.

Additional audits are done upon the request of the Governor and Federal officials under Section 17(i) of the Revised Organic Act of the Virgin Islands, as amended. The present Governor has requested an increasing number of such audits which have had a significant impact on our workload. For example, at the request of the Governor during fiscal year 1976, this office has performed the audit of six project grants to the Virgin Islands Public Works Acceleration Authority by the U.S. Department of Housing and Urban Development. Our workload has also been affected by special follow-up audits made 90 days following the issuance of audit reports. During fiscal year 1976, the Comptroller's Office made 18 follow-up reports which were forwarded to the Chairman of the Subappropriations Committee, U.S. Congress, and to the Governor. These follow-up audits have increased the implementation of significant audit recommendations contained in our audit reports.

ST. CROIX OFFICE

During fiscal year 1976 the Comptroller's Branch Office in St. Croix was reactivated and relocated from the Government House building to the Bolero building with a complement of six auditors. As indicated in the attached summary, a backlog of 3,765 man days or 17 man years is estimated as of October 1, 1976. This backlog resulted from lack of staff and inadequate office space.

Reactivation of the St. Croix Office will foster more audit activity on that island, with attendant savings in audit time, travel, and per diem costs. Also there will be a positive impact on auditable agencies created by the presence of a permanent audit staff.

ACCOMPLISHMENTS

Through December 31, 1975, measurable cash benefits to the Government of the Virgin Islands resulting from the work of the Comptroller's office totalled about $23.6 million. This figure comprises $11.8 million from U.S. taxes collected on shipments of Virgin Islands alcoholic beverages which had been underpaid by the U.S. Treasury and $11.8 million recovered as a result of inquiries and exceptions issued by the Comptroller covering overpayments, duplicate, and erroneous payments. In addition, as a result of audits completed and currently in progress, the Government Comptroller since July 1974 has issued 499 inquiries and exceptions and notices of failure to collect amounting to about $6.8 million.

Since its establishment in 1955, the Office of the Government Comptroller for the Virgin Islands has issued over 450 audit reports. Many of the recommendations covered by these reports have been implemented by the Government of the Virgin Islands; however, some major ones have not, and as a result, we estimate that as of December 31, 1975 the government has either lost revenues or incurred unnecessary costs in the total amount of $29.9 million in the following areas:

Failure to charge for potable water at rates necessary to recover cost: Comptroller's Audit Report Nos. 354-71-60 and 409-74-60 issued April 6, 1972 and August 6, 1975, respectively	$9.0
Failure to collect for Hospital Services: Comptroller's Audit Report Nos. 111-62-30 issued February 6, 1964 155-63-36 issued November 12, 1964 159-63-36 issued November 13, 1964 360-71-36 issued September 14, 1972	10.7
Comptroller's Inquiries, Exceptions, and Failures to Collect pending as of December 31, 1975:	
Inquiry No. 1323-74-22 issued 10/30/75 Unbilled Real Property Taxes for calendar years 1973 and 1974	2.4
Additional 503 Inquiries and Notices	7.8
TOTAL	$29.9

During fiscal year 1976 the Office of the Government Comptroller for the Virgin Islands assisted the Government of the Virgin Islands in preparing the Territory-Wide Cost Allocation Plans for fiscal years 1973 through 1977. We spent a total of over 150 man days on this project which included assisting the GVI in taking inventories of usable equipment and determining the construction costs of buildings of the Central Service Functions that were included in the plans. These efforts will result in considerable benefit to the Government of the Virgin Islands in receiving reimbursement of certain indirect costs from the Federal Government which have not been reimbursed in the past due to the lack of these plans.

AUDIT WORK PLAN

FISCAL YEAR 1977

AUDIT	TYPE OF AUDIT (Primarily)
Comptroller's Annual Report FY 1976	Financial
Certification of Net Revenues - Quarterly and Annual	Financial
Territory-Wide Cost Allocation Plan, Including Audit and Negotiation of Indirect Cost Rates	Financial
Internal Audit Functions, GVI	Management
Assessment, Collection and Administration of All Local Taxes Except Income Taxes	Management
Collection of Income Taxes	Management
Surprise Cash Counts of Collectors and Custodians of Petty Cash and Change Funds	Financial/Compliance
V.I. PUBLIC WORKS ACCELERATION AUTHORITY:	
6 HUD Project	Financial/Compliance
Department of Conservation and Cultural Affairs:	
2 HUD Projects	Financial/Compliance
Board of Tax Review	Management
Department of Finance:	
Treasury Division	Financial/Management
Department of Public Safety:	
Fire Division	Financial/Management
Office of the Governor:	
Government Contingency Fund	Financial/Management
Accounting Section	Financial/Management
Government Information Office	Financial/Management
Consumer Services Administration	Financial/Management
V.I. Planning Board	Financial/Management
Office of the Director of the Budget	Management
Department of Social Welfare	Financial/Management

Department of Labor:	Financial/Management
Government Insurance Fund	Financial/Management
V.I. Employment Security Agency	Financial/Management
Department of Health:	
Division of Management	Financial/Management
Department of Education:	
Division of Business Management	Financial/Management
College of the Virgin Islands	Financial/Management
Other Audits:	
Federal Funds	Financial/Management
Follow-up Audits	--
Special Audits	--

AUDIT WORK PLAN

FISCAL YEAR 1978

AUDIT	TYPE OF AUDIT (Primarily)
Comptroller's Annual Report, FY 1977	Financial
Certification of Net Revenues, Quarterly & Annual	Financial
Surprise Cash Counts of Collectors and Custodians of Petty Cash and Change Funds	Financial
Territory-Wide Cost Allocation Plan, including Audit and Negotiation of Indirect Cost Rates	Financial
Office of the Governor:	
Office of Community Services	Financial/Compliance
Office of Admin. Asst. - St. Croix	Financial/Management
Office of Admin. Asst. - St. John	Financial/Management
Department of Education:	
Office of the District Superintendent	Financial/Management
Department of Public Works:	
Office of the Commissioner	Financial/Management
Division of Roads and Highways	Financial/Management
Division of Projects, Design and Engineering	Financial/Management
Division of Construction and Maintenance	Financial/Management

V.I. Public Works Acceleration Authority:	
HUD Water and Sewer Projects	Financial/Compliance
Department of Finance:	
Office of the Commissioner	Financial/Management
Payroll Division	Financial
Molasses Subsidy Program	Financial/Compliance
Department of Commerce:	
Office of Commissioner (including Business Office)	Financial/Management
Department of Property and Procurement:	
Office of the Commissioner	Financial/Management
Division of Accounting	Financial
Division of Property	Financial/Management
Division of Printing and Offset	Management
Central Warehouse Rev. Fund	Financial/Management
Department of Conservation and Cultural Affairs:	
Office of the Commissioner (including Business Office)	Financial/Management
V.I. Port Authority	Financial/Management
Other Audits:	
Federal Funds	Financial/Compliance
Follow-up Audits	--
Special Audits	--

GOVERNMENT OF GUAM
GUAM DEVELOPMENT FUND ACT

Guam Development Fund Act: Fiscal year 1977, $1,000,000; fiscal year 1978, $500,000; decrease, $500,000.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
$-500,000	---	$500,000	---	Funding for promoting economic development.

Program Description

Public Law 90-601, "Guam Development Act of 1968" was passed for the purpose of promoting economic development within the Territory of Guam. Through fiscal year 1977, a total of $4,000,000 has been appropriated and made available to the citizens of Guam for this purpose. This request of $500,000 is the sixth increment of the $5,000,000 which was authorized by the Act.

All funds to be appropriated under the terms of this Act will be utilized according to the same formula: 15% for agricultural loans; 15% for fishery loans; 10% for tourist development; 40% for back-up facilities; and 20% for Industrial/Commercial facilities. There is a great shortage of local capital available for investment on Guam. At the present time outside investors are dominating the market. The Guam Development Fund Act was enacted specifically to enable local residents to launch into competitive business enterprises, and to develop aspects of the economy at present neglected.

It is planned that the $500,000 Loan Funds be allocated approximately as follows:

Agriculture (including meat and poultry)	$275,000
Fishing and related facilities.....	$100,000
Tourism.....	$125,000
Total.....	$500,000

GOVERNMENT COMPTROLLER - GUAM

Government Comptroller Guam: Fiscal year 1977, $441,000; fiscal year 1978, $336,000; decrease, $105,000. The decrease consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
$ - 105,000	---	$336,000	19	Decreased funding requirement due to utilization of prior year carryover.

(in thousands of dollars)

	1976	1977	1978	Increase/Decrease
New authority	600	441	336	-105
Unobligated balance applied to budget program	80	239	344	+105
Total program requirement	680	680	680	--
Full-time permanent positions for Guam Audits	19	19	19	--

TOTAL PROGRAM AND FUND SOURCE - GUAM/TTPI/NORTHERN MARIANAS

New Authority - "Guam SEC 30 funds" (P.L. 90-496)	FY-77 441	FY-78 336	INC/DEC -105
New Authority - TTPI funds (P.L. 93-111)	260	446	+186
TTPI reimbursable	130	--	-130
Unobligated balance applied to budget program from - "Guam SEC 30 funds	239	344	+105
New Authority - Northern Mariana Islands	--	124	+124
Total program	1,070	1,250	+180

TOTAL POSITIONS

Guam Audits	19	19	---
Trust Territory Audits	7	12	+5
Northern Marianas Audits	--	3	+3
Total positions	26	34	+8

PROGRAM DESCRIPTION - GUAM OPERATIONS

The Government Comptroller for Guam is charged with the responsibility for audit of all revenues and expenditures of all departments and agencies of the Territorial Government of Guam of the United States. In a law enacted in 1968 (P.L. 90-497, 48 U.S.C. 1422) the Congress spelled out that the audit activities of the Government Comptroller should be directed so as to (1) improve the efficiency and economy of programs of the Government of Guam and (2) discharge the responsibility incumbent upon the Congress to insure that the substantial Federal revenues which are covered into the treasury of the Government of Guam are properly accounted for and audited. The Comptroller has generally adopted the standards established by the Comptroller General of the United States in discharging these responsibilities.

AUDITING

As disclosed by the attached summary, the audit workload as contemplated January 1977 is approximately 19 auditors which is five more than we currently have on our staff. Spaces to fill these five vacancies are authorized.

Assuming that we can fill the vacancies with qualified auditor employees, we will be able to accomplish the workload contemplated. The overall long range plan of this office contemplates a periodic review of Government of Guam entities every two to three years in addition to the annual report and other yearly requirements.

ACCOMPLISHMENTS

Since the inception ofthe Comptroller for Guam's office, on July 19, 1969, the Comptrollers office has prepared 149 audit reports and some 2900 recommendations. Our latest analysis, as of December 31, 1976, showed an estimated annual savings or increased revenue of over $6.5 million and an estimated one-time savings or additional revenue of over $1.7 million.

PROGRAM DESCRIPTION - TRUST TERRITORY/NORTHERN MARIANA ISLANDS

The Government Comptroller for the Trust Territory is charged with the responsibility for audit of all revenue and expenditures of all departments a and agencies of the Governments of the Trust Territory. In a law enacted September 23, 1973 (P.L. 93-111, 87 Stat. 354) the Congress spelled out that the audit activities of the Government Comptroller should be directed so as to (1) improve the efficiency and economy of programs of the Government of the Trust Territory of the Pacific Islands and (2) discharge the responsibility incumbent upon the Congress to insure that the substantial Federal revenues which are covered into the treasury of the Government of the Trust Territory are properly accounted for and audited. The Comptroller has generally adopted the audit standards established by the Comptroller General of the United States.

AUDITING

As disclosed by the attached summary of the audit workload as of January 1977, the total audit workload contemplated for fiscal year 1978 is 15 audit spaces for the Trust Territory and the Northern Mariana Islands or 9 audit spaces more than we are authorized. If the desired spaces are authorized and we are able to obtain qualified auditor employees to fill these spaces we can accomplish the workload plan. Our overall long range plan contemplates a periodic audit of all of the entities of the Government of the Trust Territory every three years in addition to the annual reports and other yearly audit requirements.

GOVERNMENT COMPTROLLER FOR GUAM/TT/MARIANAS
FISCAL YEAR 1977
GUAM

AUDIT	TYPE OF AUDIT
Annual Report	Financial
Attorney General	Management
Commissioners	Management
Guam Visitors Bureau	Management
Labor	Management
Land Management	Management
Legislature	Management
Public Health Services	Management
Public Works	Management
Revenue and Taxation	Management
Administration	Management
Commerce	Management
Commercial Port	Management
Status of Recommendations	Management
Special Reports/Requests	
Secretary of Interior	Financial/Management
Governor	
FDAA State Audit	Financial/Management
HEW State Audit	Financial/Management
Miscellaneous	Financial/Management

GOVERNMENT COMPTROLLER FOR GUAM/TT/MARIANAS
FISCAL YEAR 1977
TTPI/MARIANAS

AUDIT	TYPE OF AUDIT
Annual	Financial
Congress of Micronesia	Management
Cash and Cash Management	Financial
Education	Management
Public Works	Management
Public Health & Social Services	Management
Reimbursable Audits	Financial
Other Special Requests by Secretary of Interior	Management

GOVERNMENT COMPTROLLER FOR GUAM/TT/MARIANAS
FISCAL YEAR 1978
TTPI/MARIANAS

TRUST TERRITORY

Audit	Type of Audit
Annual Report	Financial
Health Services	Management
General Support	Management
Protection of Personal Property	Management
Municipalities	Municipalities
Status of Recommendations	Management
Special Reports/Requests	
Secretary of Interior	Financial/Management
HiCom	Financial/Management
Miscellaneous	Financial/Management

NORTHERN MARIANAS DISTRICT

Annual Report	Financial
Health Services	Management
Legal Affairs	Management
Protection of Personal Property	Management
Legislature	Management
Status of Recommendations	Management
Special Reports/Requests	
Secretary of Interior	Financial/Management
Resident Commissioner	Financial/Management
Miscellaneous	Financial/Management

GOVERNMENT COMPTROLLER FOR GUAM/TT/MARIANAS
FISCAL YEAR 1978
GUAM

AUDIT	TYPE OF AUDIT
Annual Report	Financial
Agriculture	Management
Commerical Port (carry over)	Management
Commerce (carry over)	Management
Comprehensive Law Enforcement	Management
Education	Management
Governor's Office	Management
Guam Economic Development	Management
Guam Housing & Urban Renewal Authority	Management
Guam Power Authority	Management
Public Library	Management
Public Works (carry over)	Management
Revenue & Taxation (carry over)	Management
Territorial Auditor	Management
Veterans Affairs	Management
Status of Recommendations	Management
Special Reports/Requests	
Secretary of Interior	Financial/Management
Governor	Financial/Management
Miscellaneous	Financial/Management

GOVERNMENT OF AMERICAN SAMOA

HIGHLIGHT STATEMENT

Fiscal Year 1978

Description of the Territory

The Territory of American Samoa consists of a group of seven islands located 2,300 miles southwest of Hawaii and 1,600 miles northeast of New Zealand. Total land area of the seven islands is 76 square miles. A current population of 30,000 live in the American Samoa Territory with approximately 26,000 occupying the main island of Tutuila. Approximately 96 percent of land is communally owned, and land use and property are principally controlled by the matais who administer Samoan aiga (extended family units).

Government of Authority and Responsibility

The role and responsibilities of the United States in the American Samoan territory are prescribed in the Treaty Agreement of 1900 between the United States, Great Britain, and Germany. This treaty was accompanied by a series of deeds of cession negotiated between the United States and the chiefs of the seven islands. The treaty allowed the United States to establish a naval base at Pago Pago harbor. The treaty also obligated the United States to promote the economic, political, health, and educational development of American Samoa and to do so without interfering with the customs of the Samoan people. This responsibility was carried out by the United States Navy until 1951, at which time administration of the Territory was transferred to the Department of the Interior by Executive Order No. 10264.

Plans and Policies

The principal operating policy of the Government of American Samoa is to develop the Territory leading to self-sufficiency, and to attain this with minimum disturbance of the traditional Samoan cultural values.

The range of programs and services provided by the Government of American Samoa is very broad. These include the executive, legislative, and judicial functions of self-government. In addition, the typical governmental services of police and fire protection, public education, and roads, water, sewer, and parkland development and maintenance are provided. To date, the Territory is still insufficiently developed to have enabled private interests to offer other public services. Thus, the Government of American Samoa remains the principal provider in the Territory of medical services, marine resource development, employment assistance, tourism development, port services, local telephone and overseas communications, electric utility and harbor, airport and industrial park development. It is the plan of this Government to transition as many of these latter categories of activities to private providers as rapidly as they can be assumed by responsible sources.

Fiscal Year 1978 Program

The FY 1978 request for Department of Interior budget authority is $20,501,000 a decrease of $2,371,000, or 10%, from actual appropriations for fiscal year 1977. The total budget estimate for the Government of American Samoa for FY 1978, including all sources of funding, is $38,952,000, or $13,283,000 less than FY 1977.

Direct Congressional Appropriations are again requested to finance the Governor's Office and the Judiciary Branch of the GAS. Department of Interior grant-in-aid funds are requested for education, health services, port and harbor administration, public safety, legal services, financial management, and selected high-priority capital improvement programs. Local revenues collected during FY 1978 will be used to complete funding of basic operating programs, satisfy matching requirements of other Federal grants, and finance further needed capital improvement and special programs.

Total employment of the Government of American Samoa will decrease to 3,704 during FY 1978, as compared to 3,752 in FY 1977, 3,904 in FY 1976, and 4,641 in February of 1975 when the present administration took office. The total number of proposed U.S. Civil Service and contract positions is 198 or 16 less than FY 1977.

DEPARTMENT OF THE INTERIOR
ADMINISTRATION OF TERRITORIES
GOVERNMENT OF AMERICAN SAMOA

TOTAL BUDGET
SUMMARY BY SOURCE OF FUNDS

	Actual FY 1976	Estimated FY 1977	Proposed FY 1978
Basic FY Appropriations			
Direct Congressional Appropriations	$ 727,500	$ 797,500	$ 775,000
Department of Interior Grant-in-Aid	26,025,500	22,074,500	19,726,000
Basic Local Appropriations	3,931,000	7,596,000	8,713,000
Total Appropriated Funds	30,684,000	30,468,000	29,214,000
Federal Grants Received and Anticipated	13,181,000	21,767,000	9,738,000
Total Appropriations & Grants	43,865,000	52,235,000	38,952,000

83-561 O - 77 - 70

DEPARTMENT OF THE INTERIOR
ADMINISTRATION OF TERRITORIES
GOVERNMENT OF AMERICAN SAMOA

PROGRAM DISTRIBUTION SUMMARY 1/

Direct Appropriations	Actual FY 1976	Estimated FY 1977	Proposed FY 1978	Over (+) or Under (-) FY 1977	Sources of FY 1978 Funds: Interior Budget Authority	Sources of FY 1978 Funds: Local Revenue Approp.
Governor's Office	397,000	413,000	393,500	- 19,500	393,500	-0-
Judiciary	330,500	384,500	381,500	- 3,000	381,500	-0-
Total Appropriations	727,500	797,500	775,000	- 22,500	775,000	-0-
Interior Grant-in-Aid						
1. Education & Culture						
Dept. of Education	5,359,000	5,358,000	5,090,000	-268,000	4,800,000	290,000
Board of Higher Education	713,000	791,500	752,000	-39,500	650,000	102,000
	6,072,000	6,149,500	5,842,000	-307,500	5,450,000	392,000
2. Health Services						
Dept. of Medical Services	3,631,000	3,665,500	3,560,000	-105,500	3,128,000	432,000
3. Economic Development						
Dept. of Agriculture	331,000	110,000	59,000	- 51,000	-0-	59,000
Office of Tourism	63,000	62,500	59,500	- 3,000	-0-	59,500
	394,000	172,500	118,500	- 54,000	-0-	118,500

	Actual FY 1976	Estimated FY 1977	Proposed FY 1978	Over (+) or Under (-) FY 1977	Sources of FY 1978 Funds: Interior Budget Authority	Sources of FY 1978 Funds: Local Revenue Approp.
4. Trans., Comm., & Power						
Dept. of Port Administration	316,000	722,000	686,000	- 36,000	600,000	86,000
5. General Government						
Local Judicial	60,000	67,000	80,000	+ 13,000	-0-	80,000
Legislature	653,000	679,000	679,000	-0-	-0-	679,000
Dept. of Administrative Services	1,406,000	1,412,500	1,579,000	+ 166,500	1,383,000	196,000
Office of Planning & Budget	-0-2/	135,000	128,000	- 7,000	100,000	28,000
Office of Material Management	403,000	595,500	620,500	+ 25,000	-0-	620,500
Office of Manpower Resources	351,000	348,000	331,000	- 17,000	-0-	331,000
Public Defender's Office	51,000	36,000	36,000	-0-	-0-	36,000
Dept. of Public Works	3,403,000	3,783,000	5,109,000	+1,326,000	3,300,000	1,809,000
Dept. of Legal Affairs	333,500	342,000	325,000	- 17,000	300,000	25,000
Local Government	379,000	437,000	382,000	- 55,000	-0-	382,000
Audit Office	75,000	77,500	139,500	+ 62,000	-0-	139,500
Office of Samoan Information	111,000	96,000	91,500	- 4,500	-0-	91,500
	7,225,500	8,008,500	9,500,500	+1,492,000	5,083,000	4,417,500
6. Public Safety						
Dept. of Public Safety	1,020,000	935,000	888,500	- 46,500	800,000	88,500
7. Capital Improvements	7,790,000	6,267,000	5,579,500	- 687,500	4,665,000	914,500
8. Grant Match Fund	3,258,000	3,588,500	1,952,000	-1,636,500	-0-	1,952,000
9. Special Programs						
Claims & Damage Fund	100,000	100,000	100,000	-0-	-0-	100,000
Small Village Project Fund	50,000	50,000	100,000	+ 50,000	-0-	100,000

	Actual FY 1976	Estimated FY 1977	Proposed FY 1978	Over (+) or Under (-) FY 1977	Sources of FY 1978 Funds: Interior Budget Authority	Sources of FY 1978 Funds: Local Revenue Approp.
9. Special Programs (Cont'd.)						
Governor's Task Force on Management & Efficiency	100,000	-0-	-0-	-0-	-0-	-0-
Federal Grant Reserve Fund	-0-	-0-	100,000	+ 100,000	-0-	100,000
Maintenance of Ofu Airport	-0-	12,000	12,000	-0-	-0-	12,000
	250,000	162,000	312,000	+ 150,000	-0-	312,000
Totals	30,684,000	30,468,000	29,214,000	-1,254,000	20,501,000	8,713,000

1/ Distributions do not include Federal grant funds other than DOI grant-in-aid.

2/ The Office of Planning & Budget was budgeted within the Department of Administrative Services in FY 1976.

GOVERNMENT OF AMERICAN SAMOA
Salaries and Expenses
Analysis by Activity

Department of the Interior Funding Only

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared With 1977	Page Ref.
1. Governor's Office	$ 397,000	$ 413,000	$ 393,500	-19,500	Terr. - 29
2. Judiciary (Chief Justice & High Court)	330,500	384,500	381,500	- 3,000	Terr. - 32
3. Education	5,350,000	5,172,000	4,800,000	-372,000	" - 34
4. Higher Education	700,000	706,000	650,000	- 56,000	" - 40
5. Medical Services	3,600,000	3,246,000	3,128,000	-118,000	" - 43
6. Port Administration	300,000	185,000	600,000	+415,000	" - 48
7. Administrative Services	1,300,000	1,325,500	1,383,000	+ 57,500	" - 51
8. Planning & Budget	--	124,000	100,000	- 24,000	" - 55
9. Public Works	3,400,000	3,475,000	3,300,000	-175,000	" - 57
10. Legal Affairs	320,500	319,000	300,000	- 19,000	" - 64
11. Public Safety	950,000	763,000	800,000	+ 37,000	" - 67
12. Agriculture	310,000	55,000	--	- 55,000	---
13. Tourism	50,000	53,000	--	- 53,000	---

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared With 1977	Page Ref.
14. Legislature	645,000	624,000	--	- 624,000	--
15. Material Management	375,000	382,000	--	- 382,000	--
16. Manpower Resources	320,000	286,000	--	- 286,000	--
17. Public Defender	40,000	--	--	--	--
18. Local Government	370,000	369,000	--	- 369,000	--
19. Audit	50,000	59,000	--	- 59,000	--
20. Samoan Information	100,000	86,000	--	- 86,000	--
21. Local Judiciary	55,000	--	--	--	--
22. Claims & Damages Fund	--	--	--	--	--
23. Management Task Force	--	--	--	--	--
24. Small Village Project Fund	--	--	--	--	--
Totals. Operations	18,963,000	18,027,000	15,836,000	-2,191,000	
25. Construction	7,790,000	4,845,000	4,665,000	-180,000	
Total Interior Funding	26,753,000	22,872,000	20,501,000	-2,371,000	

1. Governor's Office: Fiscal year 1977, $413,000 fiscal year 1978, $393,500 decrease of $19,500. The decrease consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $-21,000	-- USCS -1 Contr.	$289,000	4 USCS 2 Contr. 11 Local	Reduction of one contract position
(2) --		24,500		Home leave travel for USCS & contract personnel and official travel to U.S.
(3) + 2,000		22,000		Increased costs of professional organization dues
(4) + 5,000		10,500		Increased requirements for replacement of office equipment, furniture & household effects
(5) + 2,500		14,500		Office & janitorial supplies, postage, food & household supplies for Government House
(6) - 8,000		33,000		Reduced requirement for shipment of USCS & contract personnel household goods
-19,500	-- USCS -1 Contr. -- Local	393,500	4 USCS 2 Contr. 11 Local	

Program Description

The objectives of the Office of the Governor are to provide executive direction over the planning, organization, and control of all GAS functions and to insure that public services are provided in the most efficient manner possible.

Governor's Office Funding

Programs	FY 1977 Estimate	FY 1978 Estimate	Change
Administration & Operations	$373,500	$343,500	$-30,000
Veterans' Affairs	16,500	19,000	+ 2,500
Boards & Commissions	1,000	4,500	+ 3,500
Government House	22,000	26,500	+ 4,500
Totals	413,000	393,500	-19,500

1. Administration & Operations, -$30,000 total, $348,500

   This activity is responsible for providing executive leadership, establishing policies, administering and coordinating all operations of the Executive Branch of the Government of American Samoa.

2. Veterans' Affairs, +$2,500; total, $19,000.

   This activity is responsible for providing assistance to veterans, their widows, children and orphans is applying for benefit checks. Other responsibilities include visiting disabled veterans, arranging burial for deceased veterans, and informing veterans of their rights and any changes in applicable Federal legislation and regulations.

   In FY 1978, the specific goals are to promote and encourage maximum participation in benefit programs, and to continue to provide responsive services to veterans, their dependents, and widows.

   Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of consultations with veterans' widows	25	25	--
No. of educational benefits & counselling processed & performed	200	400	+100%
No. of visits by VA representative	4	4	--
No. of VA beneficiaries	3	8	+167%
No. of visits by Armed Force recruiting teams	5	5	--

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of dependents' benefits processed	50	75	+ 50%
No. of pension applications processed	30	50	+ 67%

3. Boards & Commission, +$3,500; total, $4,500.

Executive Boards and Commissions function to help decide issues, make inspections, hold hearings, establish rules and regulations, and provide information and services for the Government and the public. The budget for this activity funds costs of supplies, materials, and printing and reproduction services for Executive Boards and Commissions.

4. Government House, +$4,500; total, $26,500.

This activity provides comfortable living quarters and accommodations for the Governor and family, selected quests, and visiting dignitaries.

2. Judiciary (Chief Justice & High Court): Fiscal year 1977, $384,500 fiscal year 1978, $381,500 decrease of $3,000. The decrease consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $+8,000	-- USCS -- Contr. +2 Local	$297,000	2 USCS 4 Contr. 12 Local	Addition of two local positions & normal salary increases
(2) -8,000		11,000		Reduced requirement for USCS & contract personnel replacement travel
(3) -2,000		25,500		Reduced costs of maintaining American Samoa Reporter System
(4) -1,500		7,500		Office equipment & furniture replacement, books for new library
(5) + 500		5,500		Increased costs of office supplies
(6) --		35,000		Electricity, telephone & communications, printing & reproduction, motor pool usage, & shipment of household goods
-3,000	-- USCS -- Contr. +2 Local	381,500	2 USCS 4 Contr. 12 Local	

Program Description

The primary objective of the Judiciary is to provide for the continuing and orderly conduct of the Judicial system and the continued improvement of the administration of justice in American Samoa. The Judiciary is responsible for the administration of all elements of the Judicial system in American Samoa. The Judicial system consists of the High Court and

village courts established to administer law enforcement in villages, particularly to deal with juvenile offenders. The High Court has jurisdiction within the entire territory over civil, criminal, appellate, land and title 1/, traffic 1/, and small claims cases.

In FY 1978, specific goals are:

(1) To improve the system for disposition of juvenile matters.
(2) To increase the efficiency of the Office of the Clerk.
(3) To continue reorganization of court procedures leading to procedural simplifications, reduced time expended by prosecutors per case, and reduced lead-time for all litigation from filing to trial.
(4) To continue the educational program for employees, attorneys, and government officers, leading to better service to the public.
(5) To design and install a new system of workload monitoring to determine and project budgetary requirements of the High Court.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Civil and land cases	1,200	1,000	- 17%
Appellate cases	75	75	--
Probate cases	15	30	+100%
Juvenile cases	20	30	+ 50%
Traffic cases	6,000	5,000	- 17%
Small claims cases	100	200	+100%
Criminal cases	225	400	+ 78%

1/ Salaries and benefits costs for six (6) local judges responsible for administration of the land & title and traffic courts are intended to be funded by a separate local appropriation (Local Judiciary).

3. Education: Fiscal year 1977, $5,172,000; fiscal year 1978, $4,800,000; decrease of $372,000. This activity is financed joinlty by Interior Budget Authority and local revenues as shown below:

	FY 1977 Estimate	FY 1978 Estimate	Change
Interior Budget Authority	$5,172,000	$4,800,000	$-372,000
Local Basic Appropriation	186,000	290,000	+104,000
Totals	5,358,000	5,090,000	-268,000

The net decrease of $268,000 from FY 1977 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)$- 37,000	-11 Contr. -10 Local	$4,044,000	33 Contr. 708 Local	Reduction of 11 contract and 10 local positions partially offset by normal salary increases
(2) + 12,000		83,500		Increased requirement for contract personnel termination & replacement travel
(3) - 28,000		109,000		Reduced requirement for off-island consulting services
(4) + 13,000		36,500		Replacement of student desks and classroom equipment
(5) - 22,000		213,000		Planned efficiencies in materials & supplies usage
(6) -206,000		604,000		Reduced requirement for major repairs to facilities
-268,000	-11 Contr. -10 Local	5,090,000	33 Contr. 708 Local	

Program Description

The objectives of the Department of Education are:

1. To teach English to all children, to the extent that they become fluent, literate bilinguals, equipped to broaden their education and to become productive members of society either in American Samoa, or in the United States.
2. To develop vocational skills, and attitudes, that enable the Samoan graduate to choose an individually satisfactory and socially productive way of life.
3. To teach thinking and problem-solving skills so that individuals can function as members of a viable Samoan society, capable of solving the problems of survival in a rapidly changing world.

Education Funding

	FY 1977 Estimate	FY 1978 Estimate	Change
Administration	$ 202,500	$ 214,000	$+ 11,500
Early Childhood Education	221,500	207,500	- 14,000
Elementary Instruction	2,128,500	2,100,000	- 28,500
Secondary Instruction	968,000	997,000	+ 29,000
Instructional Development	361,000	342,000	- 19,000
Television Services	571,000	542,500	- 28,500
Support Services	905,500	687,000	-218,500
Totals	5,358,000	5,090,000	-268,000

1. Administration, +$11,500; total, $214,000.

This activity is responsible for the direction, coordination, and supervision of the entire public school system. Additional responsibilities include the effective administration of the business and financial aspects of the Department of Education.

In FY 1978, specific goals are:

(1) To finalize the Department's professional certification requirements.
(2) To analyze standardized test scores of students to identify weak areas in the students' educational achievements throughout the years.
(3) To meet with village and school communities to review the Department's goals and objectives, and to solicit community and parental involvement in determining what those goals and objectives should be.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of staff leadership meetings	50	50	--
No. of school & activity visits per week	2	2	--

2. Early Childhood Education, -$14,000; total, $207,500.

This activity is responsible for providing opportunities for intellectual, physical, social and emotional development for Samoan children below the age of six.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Target population enrolled in village & home centers	2,500	2,700	+8%
No. of village ECE Centers & Home Centers	160	160	--

3. Elementary Instruction, -$28,500; total, $2,100,000.

This activity is responsible for the education of all public school elementary level children and for the continuing improvement of ongoing in-service teacher training for the professional growth of the teaching staff.

In FY 1978, specific goals are:

(1) To continue utilizing community resources in school planning.
(2) To improve kitchen areas and playground facilities.
(3) To strengthen communications between principals and teachers.
(4) To provide workshops and training sessions for teachers at all levels of instruction.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Enrollment	5,914	5,920	--
No. of employees	290	290	--

4. Secondary Instruction, +$29,000; total, $997,000.

This activity is responsible for the education of all secondary public school students.

In FY 1978, specific goals are:

(1) To continue to provide each high school student with the best possible quality education.
(2) To increase the number of degreed and certified teaching personnel.
(3) To replace worn-out classroom furniture and equipment.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Enrollment	2,412	2,566	+6%
No. of graduates	539	502	-7%

5. Instructional Development, -$19,000; total, $342,000.

This activity is responsible for providing professional leadership and assistance in curriculum development, instruction, and materials usage for grades 1-12.

In FY 1978, specific goals are:

(1) To improve the development of curriculum and materials.
(2) To improve reporting and utilization of information from curriculum tests.
(3) To improve interdisciplinary coordination and planning.
(4) To improve performance-based, curriculum-oriented in-service and pre-service training.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Contact hours with teachers for program development, modification, or maintenance	5,600	5,800	+ 4%
Contact hours with teachers in in-service and demonstration teaching	1,500	1,800	+20%

Hours of interaction with teachers & community for program evaluation	2,000	2,200	+10%
Video tapes produced	360	360	--
Teacher guides produced	44	44	--
Curriculum tests and surveys administered	14	14	--

6. Television Services, -$28,500; total, $542,500.

This activity is responsible for providing professional and efficient television services to the Department of Education as well as the community. Included in this activity are the following functions:

(1) Television Administration - overall coordination, direction, and supervision of Television Services.
(2) Television Operations - development of instructional and balanced television programming for the Department of Education and the community at large.
(3) Television Engineering - operation and maintenance of all technical equipment utilized in the production and transmission of television programs.

Television Services operates Television Station KVZK which broadcasts seven days a week, utilizing instructional television during school hours and community television in the evenings.

In FY 1978, specific goals are to continue to organize, direct and control an economical television broadcast service to meet the needs of the Department of Education and the interests of the community.

7. Support Services, -$218,500; total, $687,000.

Support Services includes the following activities:

(1) Maintenance - maintenance of classroom furniture, school equipment, and minor building repairs.
(2) Supply - storage, issuance, and delivery of instructional and operational supplies, equipment, and materials.
(3) Publications - sorting, binding, packaging, and delivering lesson plans and other printed materials.
(4) Transportation - provides safe and economical bus transportation for all children in all public school in American Samoa.
(5) Food Services - preparation of nutritiously balanced and economically prepared meals for all school children.

(6) Library Services - provides professional and efficient assistance to both school and public libraries to meet the educational, informational, recreational, and cultural needs of the people of American Samoa.

(7) Financial Aid - provides scholarships to qualified American Samoans.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of requests for minor repairs	200	200	--
No. of items of inventory to be issued	5,100	5,300	+ 4%
No. of deliveries	1,300	1,300	--
No. of printing requests processed	875	900	+ 3%
No. of students transported per day	9,000	9,000	--
No. of books circulated	60,000	75,000	+25%
No. of bookmobile stops	1,300	1,300	--
No. of students receiving financial aid	95	95	--

83-561 O - 77 - 71

4. Higher Education: Fiscal year 1977, $706,000; fiscal year 1978, $650,000; decrease of $56,000. This activity is financed jointly by Interior Budget Authority and local revenues as shown below:

	FY 1977 Estimate	FY 1978 Estimate	Change
Interior Budget Authority	$706,000	$650,000	$-56,000
Local Basic Appropriation	85,500	102,000	+16,500
Totals	791,500	752,000	-39,500

The net decrease of $39,500 from FY 1977 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $+20,000	-1 Contr. -- Local	$644,000	11 Contr. 60 Local	Normal salary increases partially offset by reduction of one contract position
(2) --		7,000		Termination & replacement travel of contract personnel
(3) -25,000		12,000		Local matching funds for College Work Study program (HEW) budgeted separately in FY 1978
(4) -10,500		--		No equipment requirements anticipated
(5) - 8,000		69,000		Planned efficiencies in materials & supplies usage
(6) -16,000		20,000		Reduced requirement for transportation of household goods and reproductio services
+39,500	-1 Contr. -- Local	752,000	11 Contr. 60 Local	

Program Description

The Board of Higher Education consists of the Community College and the Tafuna Vocational Skills Center. Primary objectives are to provide higher educational opportunities in the following areas of education:

1. Adult and continuing education.
2. Teacher pre-service education.
3. In-service teacher education programs, including facilitating the University of Hawaii and Brigham Young University summer programs.
4. A two-year college transfer program.
5. Single course and certificate programs to meet the needs of the community.
6. Vocational education in the areas of drafting, automotive repair, small motor repair, machine shop activities, building trades, and basic English and mathematics.

In addition, effective 1 July 1976, the Nursing Education program, previously administered by the Department of Medical Services, was transferred under the Community College. Due to lack of physical facilities at the College, the program will continue to be conducted at the Medical Center until appropriate space is available.

In FY 1978, specific goals are:

(1) To continue general educational and vocational education at current service levels.
(2) To bring the Library Learning Resource Center up to recommended standards.
(3) To evaluate the vocational program for continued viability, making changes as appropriate.
(4) To recruit and provide saleable skills to young people anticipating emigrating from the Territory.
(5) To expand the community services program.
(6) To provide alternate strategies of instruction - particularly individualized, multi-media instruction.
(7) To upgrade the standards for entrance and graduation of the Nursing Education program.
(8) To continue the feasibility study of a nursing career ladder training program leading to an Associate Registered Nurse degree.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of regular students in academic program	513	550	+ 7%
No. of students in occupational courses	265	280	+ 6%
No. of student nurses	32	40	+25%

5. Medical Services: Fiscal year 1977, $3,246,000; fiscal year 1978, $3,050,000; decrease of $118,000. This activity is financed jointly by Interior Budget Authority and local revenues as shown below:

	FY 1977 Estimate	FY 1978 Estimate	Change
Interior Budget Authority	$3,246,000	$3,128,000	-118,000
Local Basic Appropriation	419,500	432,000	+ 12,500
Totals	$3,665,500	3,560,000	-105,500

The net decrease of $105,500 from FY 1977 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $- 80,000	-- Contr. -16 Local	$2,621,500	20 Contr. 347 Local	Reduction of 16 local positions partially offset by normal pay increases
(2) - 47,000		26,500		Reduction in travel requirements for off-island training
(3) -4,500		151,500		Decrease in off-island medical care
(4) + 1,500		2,000		Minor equipment replacement
(5) + 29,000		614,500		Increased costs of drugs and medical, food & office supplies
(6) - 4,500		144,000		Transportation of household effects, electricity & motor pool usage, telephone & communications, printing & reproduction services
-105,500	-- Contr. -16 Local	3,560,000	20 Contr. 347 Local	

Medical Services Funding

Program	FY 1977 Estimate	FY 1978 Estimate	Change
Administration	$ 647,500	$ 547,500	-100,000
Pharmacy	244,500	248,000	+ 3,500
Laboratory	111,500	113,500	+ 2,000
Radiology	75,500	79,000	+ 3,500
Dental Services	127,500	121,500	- 6,000
Nursing Services	915,000	933,000	+ 18,000
Medical & Surgical	641,000	596,000	- 45,000
Public Health & Sanitation	480,000	452,000	- 28,000
Support Services	423,000	469,500	+ 46,500
Totals	3,665,500	3,560,000	-105,500

1. Administration, -$100,000 total, $547,500.

   This activity is responsible for the entire management and supervision of all aspects of health services in the Territory, including planning and direction, budget and finance, personnel administration, purchasing, medical supply, medical records, business services, drivers, guards, physical therapy, and the maintenance of vital statistics.

2. Pharmacy, +$3,500; total, $248,000.

   This activity is responsible for compounding and dispensing all drugs and pharmaceutical preparations in the hospital for inpatient medications and outpatient prescriptions. Pharmacy-manufactured items are also issued to eight (8) public health dispensaries on Tutuila, the Manu'a Islands, Aunu'u, and Swains Island. In addition, nonprescription items are sold to the public. It is estimated that a total of 100,000 prescriptions will be filled in FY 1978.

3. Laboratory, +$2,000; total, $113,500.

   This activity performs tests that assist the medical staff in making and/or confirming diagnoses. All laboratory tests ordered for inpatients and outpatients are performed in the laboratory. Bacteria work load is conducted at the public health laboratory. It is estimated that approximately 167,000 tests will be conducted during FY 1978.

4. Radiology, +$3,500; total, $79,000.

This activity provides diagnostic radiology services required in examinations and treatment of patients. Also performed are chest X-rays for all GAS employment applicants, annual check-ups for food handlers, examinations for aliens traveling overseas, and other tests for public health purposes. It is estimated that a total of 32,000 X-ray films will be taken during FY 1978.

5. Dental Services, -$6,000; total, $121,500.

This activity is responsible for maintaining and improving the dental health of the people of American Samoa, contract personnel, and aliens. Provisions are made for all types of dental care except advanced orthodontic treatment and open reduction of facial fractures. Additional responsibilities include planning, coordinating, and implementing the school dental health program. It is estimated that in FY 1978, there will be approximately 9,000 patient visits to the clinic.

6. Nursing Services, +$18,000; total, $933,000.

This activity is responsible for safe, efficient, and effective nursing care. It is estimated that in FY 1978, a total of 247,000 hours of nursing care will be provided.

7. Medical & Surgical, -$45,000; total, $596,000.

This activity supports all doctors plus one surgical technician and two anesthetists. Basic general medicine services and specialty services in obstetrics-gynocology, general surgery, internal medicine, pediatrics, and optholmology are provided.

In FY 1978, the specific goals are to continue to provide quality medical services, to provide training opportunities for upgrading of local staff, and to recruit qualified contract personnel for vacant positions.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of outpatient visits	123,000	123,000	--
No. of patient discharge days	39,000	39,000	--

8. Public Health & Sanitation, -$28,000; total, $452,000.

This activity provides preventive health services and health education, and is responsible for the control of sanitary conditions within the Territory.

In FY 1978, specific goals are:

(1) To provide on-the-job training for employees to improve the quality of their performance.
(2) To more effectively enforce sanitation laws.
(3) To prevent the introduction of communicable diseases.
(4) To reduce the dog population.
(5) To conduct a rat control program.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of immunizations given	14,400	14,700	+ 2%
No. of home visits	25,500	25,700	+ 1%
Stray animals caught	300	250	-17%
Inspections of food establishments	3,650	3,800	+ 4%
No. of ships & aircraft granted sanitary clearance	4,350	4,500	+ 3%
No. of citations issued	200	250	+25%
Buildings visited for rat control	320	360	+13%

9. Support Services, +$46,500; total, $469,500.

Support Services consists of the following activities:

(1) Laundry - collection and laundering of hospital linens and garments. In addition, laundry services are sold to other GAS organizations and private entities.
(2) Housekeeping - maintenance of hospital and public health facilities in a clean, sanitary, and attractive condition essential to medical and nursing care of patients. Regularly scheduled cleaning programs are maintained throughout the Medical Services complex. Patient care areas, intensive care units, surgical suites, and other specialized areas require an especially high level of sanitation and sterilization. All housekeeping activities are performed in two shifts from 7:00 AM to 12:00 midnight, seven days a week, including holidays.

(3) Food Services - planning & preparation of nutritious meals for patients and student nurses. Specialized diets essential to the treatment of patients are also provided.

(4) Maintenance - maintenance of hospital buildings, grounds, and equipment. Additional responsibilities include the up-keep of dispensaries.

In FY 1978, the specfic goal for Support Services is to continue to maintain the ability to provide effective and efficient support to the Department of Medical Services.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of pieces of laundry processed	355,000	355,000	--
No. of square feet of space cleaned	118,000	118,000	--
No. of meals prepared and served	117,000	117,000	--

6. Port Administration: Fiscal year 1977, $185,000; fiscal year 1978, $600,000; increase of $415,000. This activity is financed jointly by Interior Budget Authority and local revenues as shown below:

	FY 1977 Estimate	FY 1978 Estimate	Change
Interior Budget Authority	$185,000	$600,000	$+415,000
Local Basic Appropriation	537,000	86,000	-451,000
Totals	722,000	686,000	- 36,000

The net decrease of $36,000 from FY 1977 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)$- 7,000	-1 Contr. -4 Local	458,000	3 Contr. 60 Local	Reduction of four local positions partially offset by normal salary increases
(2) - 3,000		9,000		Reduced requirement for contract personnel termination & replacement travel
(3) +11,500		86,000		Increased maintenance costs of water transport. vessels & harbor mooring buoys
(4) -34,500		7,000		Reduced requirement for equipment replacement
(5) + 8,000		97,500		Increased costs of materials & supplies
(6) -11,000		28,500		Reduced requirement for transportation of contract personnel household goods
-36,000	-1 Contr. -4 Local	686,000	3 Contr. 60 Local	

Program Description

The objectives of the Department of Port Administration are to provide all services associated with seaport and airport facilities operations within the Territory, including operation of the Territorial Customs Office.

Port Administration Funding

Program	FY 1977 Estimate	FY 1978 Estimate	Change
Office of Director	$102,500	$107,000	$+ 4,500
Customs & Quarantine Division	89,500	81,500	- 8,000
Harbor Division	30,000	41,500	+11,500
Water Transportation Division	500,000	456,000	-44,000
Totals	722,000	686,000	-36,000

1. Office of Director, +$4,500; total, $107,000.

   This activity is responsible for the overall direction and supervision of the Department of Port Administration including administration of Pago Pago International Airport which is operated as an enterprise fund.

2. Customs & Quarantine Division, -$8,000; total, $81,500.

   This activity is responsible for the application and collection of all customs charges and excise taxes in the Territory. In addition, effective 1 July 1976, responsibility for inspection of incoming ships and aircraft to prevent the introduction of pest and disease problems was transferred from the Department of Agriculture.

   Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Excise tax & customs charge collections	$1,297,000	$1,419,000	+9%
No. of vessels cleared	1,650	1,700	+3%
No. of aircraft cleared	9,900	10,000	+1%

3. Harbor Division, +$11,500; total, $41,500.

This activity is responsible for operation of the seaports of American Samoa including providing pilot services for deep draft vessels entering and clearing Pago Pago Harbor.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Revenue collected from dockage, pilotage, tonnage, storage, & wharfage charges	$500,000	$525,000	+5%
Vessels entered & cleared	1,650	1,700	+3%

4. Water Transportation Division, -$44,000; total, $456,000.

This activity provides tugboat service for overseas shipping lines, private charter service, and water transportation services for the GAS including two trips per week to villages on the North Shore of Tutuila and monthly trips to the Manu'a Islands. Water Transportation was operated as an enterprise fund until 1 July 1976.

In FY 1978, specific goals are to upgrade all vessels and crews to U.S. Coast Guard requirements, increase operating efficiency, and continue to provide reliable service for overseas shipping and local harbor operations.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Tugboat service & private charter revenues	$527,000	$553,000	+5%

7. Administrative Services: Fiscal year 1977, $1,325,500; fiscal year 1978, $1,383,000 increase of $57,500. This activity is financed jointly by Interior Budget Authority and local revenues as shown below:

	FY 1977 Estimate	FY 1978 Estimate	Change
Interior Budget Authority	$1,325,500	$1,383,000	$+57,500
Local Basic Appropriation	87,000	196,000	+109,000
Totals	1,412,500	1,579,000	+166,500

The net increase of $166,000 over FY 1977 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Program	Explanation
(1) $+35,500	-- USCS -1 Contr. +3 Local	$1,179,000	1 USCS 18 Contr. 101 Local	Normal salary increases & three additional local positions
(2) + 3,500		43,500		Reduced requirement for contract personnel termination & replacement travel
(3) - 6,000		93,000		Maintenance of office equipment & air conditioners, data processing equipment rental
(4) - 2,000		6,500		Reduced requirement for replacement of office equipment & furniture
(5) + 95,500		169,500		All GAS printing supplies directly budgeted in FY 1978
(6) + 40,000		87,500		Electricity costs for Central Admin. Bldg. underbudgeted in prior years
+166,500	-- USCS -1 Contr. +3 Local	1,579,000	1 USCS 18 Contr. 101 Local	

Program Description

The primary objectives of the Department of Administrative Services are:

1. To effectively manage all financial activities of the GAS including the collection of all individual and business income taxes within the Territory.
2. To coordinate, monitor, and evaluate ongoing and proposed Federal grant programs in American Samoa.
3. To develop and maintain accurate and meaningful information systems for government-wide use.

Administrative Services Funding

Program	FY 1977 Estimate	FY 1978 Estimate	Change
Office of Director	$ 149,000	$ 169,000	$+ 20,000
Grant Administration Division	36,000	35,500	- 500
Comptroller's Division	533,000	526,500	-6,500
Information Systems Division	498,000	651,000	+153,000
Tax Office	196,500	197,000	+ 500
Totals	1,412,500	1,579,000	+166,500

1. Office of Director, +$20,000; total, $169,000.

This activity is responsible for the overall direction and supervision of the Department of Administrative Services. The requested increase is to fully finance electricity costs for the Central Administration Building. This item has been underbudgeted in prior years.

In FY 1978, specific goals are:

(1) To continue refinement of procedures to aid in the day-to-day financial operations of the GAS.
(2) To continue training related to refinements in the new financial management system.
(3) To establish management career development programs for designated key personnel.

2. Grant Administration, -$500; total, $35,500.

The objectives of this activity are to coordinate, monitor, and evaluate ongoing and proposed Federal grant programs in American Samoa.

In FY 1978, specific goals are:

(1) To achieve timely and accurate reporting to Federal

grantor agencies.
(2) To coordinate grant planning with overall GAS objectives.
(3) To assess performance under individual grant programs.

During FY 1978, it is estimated that approximately 40 Federal grant applications and annual work programs will be reviewed.

3. Comptroller's Division, -$6,500 total, $518,500.

This activity is responsible for the following functions:

(1) Accounting
(2) Disbursing
(3) Revenue collection
(4) Document control
(5) Credit control
(6) Weights & measures inspection

In FY 1978, specific goals are to continue refinement of the new accounting systems and training of local personnel in the maintenance of these systems, reduce the level of accounts receivable through more aggressive collection practices, and continue expansion of weights and measures activities into the areas of packaging and labeling.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Disbursement warrant payments (monthly)	2,500	2,500	--
Payroll checks (monthly)	8,500	8,500	--
Data processing entries (monthly)	45,000	50,000	+11%
Average level of accounts receivable	$900,000	$445,000	-51%
Weights & measures inspections	1,800	1,800	--

4. Information Systems Division, +$153,000; total, $651,000.

This activity is responsible for the development and maintenance of all information systems within the GAS. Specific functions are:

(1) Data processing
(2) Systems design
(3) Programming
(4) Records management
(5) Mail service
(6) Printing service

In order to simplify government operating procedures, the GAS Print Shop, previously operated as an intragovernmental service fund, is requested to be directly budgeted in FY 1978 at an estimated cost of $166,500. Revenues from full-cost charges to enterprise funds and Federal grant programs, and materials charges to basic operating programs, will be credited to the General Fund.

In FY 1978, specific goals are:

(1) To complete automation of the new financial systems.
(2) To review existing applications and effect any necessary or desirable changes.
(3) To design and implement, on a priority schedule, such new systems as inventory control, medical records, and classroom scheduling.
(4) To expand records management to include organizations other than Administrative Services.
(5) To improve the reliability and timeliness of the GAS mail and messenger service.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Computer time used	5,720	6,570	+15%
Keypunch time	9,200	12,740	+38%

5. Tax Office, +$500; total, $197,000.

This activity is responsible for the collection of all individual and business income taxes within the Territory.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Tax returns processed	9,000	9,300	+3%
Audits of business & individuals	2,000	2,000	--

8. Planning and Budget: Fiscal year 1977, $124,000; fiscal year 1978, $100,000; decrease of $24,000. This activity is financed jointly by Interior Budget Authority and local revenues as shown below:

	FY 1977 Estimate	FY 1978 Estimate	Change
Interior Budget Authority	$124,000	$100,000	$-24,000
Local Basic Appropriation	11,000	28,000	+17,000
Totals	$135,000	128,000	- 7,000

The net decrease of $7,000 from FY 1977 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $ --	-- USCS -- Contr. -- Local	$118,000	1 USCS 2 Contr. 5 Local	No change
(2) -4,000		2,000		No requirement for USCS or contract personnel replacement travel
(3) --		500		Maint. of office equipment & air conditioning
(4) --		--		No replacement equipment requirements
(5) + 500		3,000		Increased costs of materials & supplies
(6) -3,500		4,500		No requirement for shipment of household goods for USCS and contract personnel
-7,000	-- USCS -- Contr. -- Local	128,000	1 USCS 2 Contr. 5 Local	

83-561 O - 77 - 72

Program Description

The primary objectives of the Office of Planning and Budget are:

1. To coordinate overall program planning and budget development for the GAS.
2. To continually evaluate all GAS programs for quality of performance and effectiveness in meeting program objectives.
3. To monitor the expenditure of all funds regardless of source, i.e. Department of Interior budget authority, local revenues, and other Federal grants.

In prior fiscal years, the functions of Planning and Budget were budgeted under the Department of Administrative Services. During FY 1976, in order to place more emphasis upon program planning and budget development, the Office was segregated from Administrative Services and established as a separate organizational entity with reporting responsibility directly to the Governor. The Office is staffed with a Director, a Program Analyst, three Budget Analysts, a secretary, and a clerk/typist.

In FY 1978, specific goals are:

(1) To improve capabilities for long-range planning within the GAS.
(2) To upgrade overall budget development skills of GAS managers and other personnel with program and budget development responsibilities.
(3) To continue development of the Management Information System (MIS) as an effective tool in the evaluation of government programs.

During FY 1978, management seminars will be organized and conducted with particular emphasis on the establishment of goals, long-range planning, and the uses of plans and budgets as management tools. Workshops on budget development procedures and techniques will be conducted for those GAS personnel primarily responsible for the preparation of individual operating and capital improvement budgets. Efforts to refine the MIS will be continued with major emphasis on the development of reliable performance indicators for use in measuring the effectiveness of government programs.

9. Public Works: Fiscal year 1977, $3,475,000; fiscal year 1978, $3,300,000; decrease of $175,000. This activity is financed jointly by Interior Budget Authority and local revenues as shown below:

	FY 1977 Estimate	FY 1978 Estimate	Change
Interior Budget Authority	$3,475,000	$3,300,000	$- 175,000
Local Basic Appropriation	308,000	1,809,000	+1,501,000
Totals	3,783,000	5,109,000	+1,326,000 1/

1/ Proposed increase represents financing changes rather than program increases as outlined under justifications for Construction Division (p. 42) and Motor Pool Division (p. 45).

The net increase of $1,326,000 over FY 1977 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)$+ 703,000	- 1 Contr. +153 Local	$3,167,500	22 Contr. 552 Local	Additional of 153 local positions and normal salary increases
(2) + 4,500		43,000		Increased requirement for contract personnel replacement travel
(3) - 81,000		61,500		Reduced requirement for contract maintenance services
(4) + 99,500		269,000		Equipment for production of construction materials directly budgeted in FY 1978
(5) + 329,500		832,500		Raw construction materials and fuel, oil, & spare parts for heavy equipment & motor pool vehicles directly budgeted in FY 1978
(6) + 270,500		735,500		Improvements to facilities
+1,326,000	- 1 Contr. +153 Local	5,109,000	22 Contr. 552 Local	

Program Description

The primary objectives of the Department of Public Works are:

1. To provide in-house architectual, engineering, design, and support services for all GAS capital improvement projects.
2. To provide management and space utilization control of all GAS building facilities.
3. To maintain and service all GAS buildings, grounds, public toilets, roads, street lights, and the aerial tramway.
4. To operate and maintain the Government water, sewage, and solid waste systems.
5. To operate the Government Motor Pool and Electric Utility.
6. To enforce building, electrical, plumbing, and mechanical codes, health and safety standards, and zoning ordinances within the Territory.

Public Works Funding

Program	FY 1977 Estimate	FY 1978 Estimate	Change
Administration	$ 479,500	$ 458,000	$- 21,500
Civil Division	282,500	301,000	+ 18,500
Construction Division	488,500	1,673,000	+1,184,500
Special Services Division	224,000	177,500	- 46,500
Facilities Division	1,429,000	1,337,500	- 91,500
Water, Sewer, & Solid Waste Division	777,000	747,000	- 30,000
Motor Pool Division	102,500	415,000	+ 312,500
Totals	3,783,000	5,109,000	+1,326,000

1. Administration, -$21,500; total, $458,000.

This activity is responsible for the overall direction and supervision of the Department of Public Works, including six other operating divisions, and the Electric Utility which is financed as an Enterprise Fund. Additional responsibilities include providing drafting services, contract administration, preparing right-of-way agreements and land appraisals, providing back-up engineering support for the Civil Division, and enforcement of building, electrical, plumbing, and mechanical codes, health & safety standards, and zoning ordinances within the Territory.

In FY 1976, specific goals are:

(1) To develop a manual outlining intradepartmental procedures for better interpretation and application.

(2) To improve the efficiency of all land acquisition for proposed GAS projects and aid individuals relocated through the establishment of a Relocation Assistance Program.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Contract drawings produced	250	300	+20%
Construction contracts administered	44	44	--
A/E contracts administered	33	33	--
Right-of-way agreements obtained	52	80	+54%

2. Civil Division, +$18,500; total, $301,000.

This activity is responsible for in-house architectual and engineering services for all GAS capital improvement programs, survey services, and the installation and maintenance of street lights.

In FY 1978, specific goals are:

(1) To develop a long-range plan of action with priority listings.
(2) To improve skills of local personnel through on-the-job training.
(3) To continue liaison with the U.S. Army Corps of Engineers in support of projects sponsored by the Corps.
(4) To continue efforts to have projects ready for bid as funding becomes available.
(5) To eliminate the need for outside A/E contracts on highway projects.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of non-road projects completed or in progress	50	60	+20%
Miles of road designed	7	5	-30%
No. of surveys	160	180	+12%

3. Construction Division, +$1,184,500; total $1,673,000.

This activity is responsible for providing supporting services to all organizations of the GAS in the areas of construction administration, heavy equipment, and construction products.

In FY 1978, the Materials Services (construction products) and Equipment Services (heavy equipment) Branches which were previously financed as intragovernmental service funds, are proposed to be directly budgeted at total estimated costs of $600,000 and $902,500 respectively. Enterprise funds, Federal grant programs, capital improvement projects, and private-sector customers will continue to be charged for services provided by these two activities with revenues credited to the General Fund. Basic operating programs will be charged for materials costs only of services provided. Revenues from the sale of materials to basic operating programs will likewise be credited to the General Fund.

Specific goals for FY 1978 are:

(1) To insure completion of all assigned construction projects in accordance with project specifications.
(2) To upgrade the heavy equipment fleet by rehabilitating existing equipment and purchasing new equipment as necessary.
(3) To improve the operating efficiency and maintenance capability of both the Materials Services and Equipment Services Branches.

4. Special Services Division, -$46,500; total $177,500.

This activity is responsible for the enforcement of all building regulations and zoning ordinances within the Territory, and for performing quality control inspections on all GAS construction contracts as well as "in-house" projects carried out by the Construction Division.

In FY 1978, specific goals are:

(1) To expand operations to include the enforcement of the mechanical code by inspecting installations of all cooling, ventilation, and heating systems.
(2) To increase safety inspections of existing buildings to insure compliance with building codes, health & safety standards, and zoning ordinances.
(3) To improve the individual skills and work performance of all personnel.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Buildings plans reviewed & permits issued	450	465	+ 3%
Site, structural & foundation inspections	4,000	4,200	+ 5%
Electrical inspections	1,500	1,700	+13%
Plumbing inspections	1,000	1,200	+20%
Grading & excavation inspections	125	160	+28%
Safety inspections of existing buildings	1,500	2,000	+33%
No. of construction inspection man-hours	1,545	1,800	+17%

5. Facilities Division, -$91,500; total $1,337,500.

This activity is responsible for maintenance of all government buildings, grounds, and public toilets; maintenance of all facilities in the Manu'a Islands including water, sewer & solid waste systems; maintenance and operation of the aerial tramway which services the television transmitter station on Mt. Alava; and management and space utilization control of all government buildings. In addition, the Facilities Division has responsibility for road maintenance which is financed by a Special Revenue Fund.

In FY 1978, specific goals are:

(1) To improve maintenance control through more efficient planning and scheduling.
(2) To continue implementation and refinement of the preventive maintenance program established in FY 1976.
(3) To continue to upgrade the work performance of local personnel through the training programs begun in FY 1976.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of schools maintained	30	30	--
No. of other GAS buildings maintained	400	400	--
No. of public toilets maintained	8	8	--
No. of service calls completed	3,000	2,500	-17%
No. of work orders completed	1,200	1,200	--
Hours of tramway operation	5,800	5,800	--

Hours of scheduled tramway maintenance	1,800	2,800	+55%
Hours of unscheduled tramway maintenance	2,400	1,400	-42%

6. Water, Sewer, & Solid Waste Division, -$30,000; total, $747,000.

This activity is responsible for the operation and maintenance of government water, sewage, and solid waste systems on Tutuila. In addition, a water testing program is conducted on a cooperative basis with the U.S. Geological Survey District Office in Honolulu, Hawaii.

In FY 1978, specific goals are:

(1) To develop and implement an effective preventive maintenance program to minimize costly breakdowns and outages.
(2) To establish an equipment repair shop for water, sewer, & solid waste system components.
(3) To establish a tool and spare parts inventory system.
(4) To improve solid waste collection and disposal through better assignment of routes and modernization of collection equipment.
(5) To assist remote villages in developing adequate disposal techniques.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Miles of water mains	34	40	+18%
No. of chlorination stations	15	18	+20%
No. of water connections	1,100	1,325	+20%
No. of water sources	24	30	+25%
Miles of sewer lines	10.5	13.0	+24%
No. of sewer connections	500	600	+20%
No. of treatment plants	2	2	--
Sewage treated (millions of gallons per day)	.75	.86	+15%
Tonnage of solid waste handled (per week)	145	150	+ 3%
Sanitary landfills operated	1	2	+100%
No. of commercial solid waste collection points	40	46	+15%

7. Motor Pool Division, +$312,500; total, $415,000.

This activity is responsible for fulfilling the motor transport requirements of all government programs. Approximately 412 automobiles and trucks are serviced and maintained.

In FY 1978, the Motor Pool, previously financed as an intra-governmental service fund and partially budgeted during FY 1977, is proposed to be directly budgeted at a total estimated cost of $415,000. Enterprise funds, Federal grant programs, and capital improvement projects will continue to be charged for motor pool services with revenues credited to the General Fund. Basic operating programs will be charged for materials costs only of services provided. Revenues from the sale of supplies and materials to basic operating programs will likewise be credited to the General Fund.

In FY 1978, specific goals are:

(1) To develop a complete preventive maintenance capability.
(2) To improve operations of the body repair and paint shop.
(3) To develop a realistic spare parts inventory.

10. Legal Affairs: Fiscal year 1977, $319,000; fiscal year 1978, $300,000; decrease of $19,000. This activity is financed jointly by Interior Budget Authority and local revenues as shown below:

	FY 1977 Estimate	FY 1978 Estimate	Change
Interior Budget Authority	$319,000	$300,000	$-19,000
Local Basic Appropriation	23,000	25,000	+ 2,000
Totals	342,000	325,000	-17,000

The net decrease of $17,000 from FY 1977 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $-11,000	-- USCS -- Contr. -3 Local	$294,500	1 USCS 2 Contr. 34 Local	Transfer of three local positions to LEAA funding
(2) - 4,500		4,000		Reduced requirement for congract personnel replacement travel
(3) + 1,000		3,500		Maintenance of office equipment & air conditioners
(4) - 1,000		--		No anticipated replacement of office equipment
(5) --		11,000		Law book supplements, subscriptions, & office supplies
(6) - 1,500		12,000		Transportation of household effects, motor pool usage, electricity, telephone & communications, & reproduction services
-17,000	-- USCS -- Contr. -3 Local	325,000	1 USCS 2 Contr. 34 Local	

Program Description

The primary objectives of the Department of Legal Affairs are:

1. To provide legal services for all organizations of the GAS and prosecution of all criminal cases in American Samoa.
2. To control the entering of non-American Samoans into the territory.
3. To register and preserve public records.

Legal Affairs Funding

Program	FY 1977 Estimate	FY 1978 Estimate	Change
Attorney General's Office	$172,000	$143,500	$-28,500
Immigration Division	151,000	165,000	+14,000
Territorial Registrar	19,000	16,500	- 2,500
Totals	342,000	325,000	-17,000

1. Attorney General's Office, -$28,500; total, $143,500.

This activity is responsible for rendering legal advice to all departments, boards and agencies of the Government of American Samoa and is responsible for prosecution of all criminal cases.

Specific goals for FY 1978 are to continue to provide qualitative legal services to the GAS, train local personnel to replace contract personnel, and improve the work-flow throughout the Department.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of cases (criminal)	175	250	+43%
No. of cases (civil)	35	50	+43%
No. of cases (traffic	1,500	1,600	+ 7%
Claims processed administratively	40	60	+50%
Board Hearings	700	700	--
Preparation & review of legal documents	280	320	+14%
Preparation & review of legislation	140	150	+ 7%

2. Immigration Division, +$14,000; total, $165,000.

This activity is responsible for the control of non-American Samoans' entry into American Samoa and for the issuance of United States passports and visas.

Specific goals for FY 1978 are to revise and improve the immigration control system and continue training/familiarization of personnel on immigration functions and objectives to upgrade efficiency and capability.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of persons entering	125,000	150,000	+20%
Visas issued	1,900	2,400	+24%
Passports and letters of identity issued	6,000	7,500	+25%
Board Hearings	2,200	2,200	--

3. Territorial Registrar, -$2,500; total, $16,500.

This activity is responsible for recording & preserving all legal documents pertaining to matai titles, land titles, separation agreements, conveyances, leases and other legal documents.

Specific goals for FY 1978 are to efficiently process an anticipated substantial increase in instruments for registration.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Registration of matai titles	250	260	+ 4%
Registration of land titles, separation agreements, conveyances & leases	3,000	3,500	+17%
Registration of other documents	2,500	3,000	+20%

11. Public Safety: Fiscal year 1977, $763,000; fiscal year 1978, $800,000; increase of $37,000. This activity is financed jointly by Interior Budget Authority and local revenues as shown below:

	FY 1977 Estimate	FY 1978 Estimate	Change
Interior Budget Authority	$763,000	$800,000	$+37,000
Local Basic Appropriation	172,000	88,500	-83,500
Totals	935,000	888,500	-46,500

The net decrease of $46,500 from FY 1977 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $+41,000	-- Contr. +9 Local	$742,000	2 Contr. 122 Local	Addition of nine local positions and normal salary increases
(2) + 500		6,000		Contract employee replacement travel & inter-island investigations
(3) --		17,000		Maintenance of police vehicles, office equipment, and air conditioners
(4) -93,500		12,500		Reduced requirement for replacement of police & fire equipment
(5) + 2,000		54,500		Increased costs of photographic film, maintenance materials, and office supplies
(6) + 3,500		56,500		Increased motor pool usage, electricity, telephone & communications, printing & reproduction
-46,500	-- Contr. +9 Local	888,500	2 Contr. 122 Local	

Program Description

The primary objectives of the Department of Public Safety are to provide all services related to police and fire protection in the Territory, and to administer the Territorial Correctional Facility.

Public Safety Funding

Program	FY 1977 Estimate	FY 1978 Estimate	Change
Director's Office	$ 99,000	$ 81,000	$-18,000
Police Protection	428,000	443,000	+15,000
Fire Protection	273,500	219,500	-54,000
Correctional Facility	134,500	145,000	+10,500
Totals	935,000	888,500	-46,500

1. Director's Office, -$18,000; total, $81,000.

   This activity is responsible for the overall direction and supervision of the Department of Public Safety.

   Specific goals for FY 1978 are to fully implement the new Manual of Operations, to establish effective chains of command and communication, and to continue development of a training program through the Community College and the Training Division, Office of Manpower Resources for policemen, firemen, and correction officers.

2. Police Protection, +$15,000; total, $443,000.

   This activity is directly responsible for the protection of lives and property in compliance with the Code of American Samoa. Police service is rendered from two locations - the Pago Pago Bay area and village of Leone in the Western District.

   Specific goals for FY 1977 are to improve police protection services, provide training for staff, and to familiarize all personnel with established rules & regulations as prescribed in the new Manual of Operations.

   Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Crimes handled by police	2,350	2,370	+1%
Non-criminal incidents handled by police	1,950	1,950	--

Traffic citations issued	6,850	6,850	--

3. Fire Protection, -$54,000; total, $219,500.

This activity is responsible for providing all fire protection services within the Territory, and for conducting routine inspections of fire extinguishers located within Government buildings.

Specific goals for FY 1978 are to improve and maintain adequate levels of fire protection service and to train all personnel in modern fire fighting techniques.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
Responses to structure fires	16	16	--
" to vehicle fires	11	10	- 9%
" to vessel fires	3	3	--
" to all other fires	45	50	+11%
Rescue operations (land & water)	135	140	+ 4%
No. of buildings inspected	110	110	--
No. of individuals given first-aid training	300	300	--

4. Correctional Facility, +$10,500; total, $145,000.

This activity is responsible for detention and rehabilitation of all offenders of the laws of American Samoa. Specific goals in FY 1978 are to improve rehabilitation programs and vocational training for prison inmates.

Selected measures of workload are:

	FY 1977 Estimate	FY 1978 Estimate	Change
No. of suspects and prisoners admitted to Correctional Facility	990	1,000	+ 1%
No. of releases	970	975	+ 1%
Rehabilitation programs	9	10	+11%

GOVERNMENT OF AMERICAN SAMOA
Capital Improvements
Analysis by Activities

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared With 1977	Page Ref.
1. Water Systems	$4,500,000	$1,888,000	$ 920,000	$- 968,000	Terr. - 71
2. Electrical Power Systems	3,290,000	1,500,000	375,000	-1,125,000	" - 73
3. Roads	--	987,000	1,960,000	+ 973,000	" - 74a
4. Community College Fine Arts Bldg.	--	--	204,000	+ 204,000	" - 75
5. " " Science Bldg.	--	--	415,000	+ 415,000	" - 76
6. " " Voc. Trades Bldg.	--	--	196,000	+ 196,000	" - 77
7. School Buses	--	90,000	105,000	+ 15,000	" - 78
8. Solid Waste, Sewer, & Water Equipment	--	--	100,000	+ 100,000	" - 79
9. Construction Equipment	--	--	390,000	+ 390,000	" - 80
10. Sewer Systems	--	50,000	--	- 50,000	---
11. Solid Waste Transfer Station	--	50,000	--	- 50,000	---
12. Toilet & Shower Facilities	--	280,000	--	- 280,000	---
Totals	7,790,000	4,845,000	4,665,000	- 180,000	

1. Water Systems, $920,000.

Need for Program:

The serious water shortages experienced during the past several years have pointed out the major inadequacies in the Territory's water supply facilities. Financed by a $3 million HUD grant, a five-year program to revamp the water systems was begun in FY 1976 with initial efforts aimed at eliminating major piping bottlenecks in transporting adequate water from the Tafuna Fou well fields, near the airport, to the Pago Bay area where the tuna canneries and heaviest concentration of people are located. Other projects funded by Department of Interior grant-in-aid during FY 1976 and FY 1977 will provide additional wells, storage reservoirs, chlorination facilities, transmission and distribution pipeline, and permit rehabilitation of existing facilities. However, to provide adequate supplies of water for all residents of the Territory, additional wells, chlorination facilities, and transmission and distribution pipeline are needed.

Program of Work:

During FY 1978, four (4) additional wells will be drilled and equipped with pumps, additional chlorination facilities will be constructed, and adequately sized transmission and distribution pipeline will be installed to replace undersized facilities in the Bay Area and Western District. Miscellaneous other small distribution system additions and improvements will be accomplished as needed. The effect of this program on the government water system will be as follows:

(a) The new wells will provide an additional two million gallons of potable water per day.
(b) The chlorination facilities will upgrade water supplies for the Leone area (Western District) to standards of the Safe Drinking Water Act.
(c) The additional transmission pipeline in the Bay Area will permit flows of up to seven million gallons of water per day which should be adequate to meet estimated demands for the next 20 years.
(d) The transmission and distribution pipeline between Ili'ili and Futiga will complete an adequate sized pipeline link from the Bay Area and through most of the Western District, and will include a connection for a major water storage reservoir planned for Futiga.

83-561 O - 77 - 73

(e) The provision for miscellaneous distribution system additions and improvements will allow for contingencies that occur, particularly in the case of pipeline connections to new wells, the locations of which cannot always be predicted far in advance.

Estimated costs by work feature are:

Work Feature	Estimated Cost
Well drilling and installation of pumps	$150,000
Chlorination facilities	30,000
Transmission & distribution pipeline	590,000
Miscellaneous distribution system additions & improvements	150,000
Total Estimated Costs	$920,000

2. Electrical Power Systems, $375,000.

Need for Program:

At present, adequate shop and storage space is not available at the Tafuna power plant. No dehumidified storage is available for instruments, governors, test equipment, and spare parts which require this type of storage. Spare parts are now stored in an open bay at one end of the plant. There is no space for calibrating relays, meters, and instruments, and no shop area for the repair of transformers or testing of consumer meters. No clean space exists for the maintenance of critical parts, i.e. fuel injectors, pumps, and governors. In order to maintain the electrical equipment in good, servicable condition, it is imperative that additional shop and storage space be made available.

In addition, the primary electrical transmission line between the Tafuna power plant and the village of Leone in the Western District needs to be reconductored. Recently, a voltage drop test was conducted during peaking hours, and an eight percent voltage drop was found to exist. The maximum voltage drop under these circumstances should be less than seven percent. Not only is the demand for electrical service in the Leone area increasing, but service provided by the remaining four miles of transmission line beyond Leone to the western end of the line would also be improved by reconduction of the primary line to Leone.

Program of Work:

During FY 1978, a 5,000 sq. ft. electrical utility corporation yard will be constructed at the Tafuna power plant to include an instrument and meter shop, fuel injector and pump cleaning room, dehumidified storage space, and a general shop area. The primary electrical transmission line between the Tafuna plant and the village of Leone will be reconductored with 2/0 cable, bringing the line up to acceptable standards. Estimated costs are as follows:

Description	Estimated Cost
Architectual & engineering design	$ 15,000
Construction of building	235,000
Paving, fencing, & landscaping	50,000
Reconduction of transmission line (38,000 ft.)	75,000
Total Estimated Costs	$375,000

3. Roads. $1,960,000

Need for Program:

The main paved highway in American Samoa, which runs along the entire southern portion of Tutuila, is approximately 11 years old. Several sections of this highway are badly in need of resurfacing, and other areas with serious sub-surface failure need to be completely rebuilt. Approximately eight miles of the highway will be resurfaced during FY 1977. However, another five miles will need to be resurfaced by FY 1978, and other funding is required to rebuild those areas with the most critical sub-surface deterioration.

In addition, the Amouli-Aoa and Ili'ili-Airport roads in the Western District need to be upgraded and paved. The north shore villages of Aoa and Faalefu are presently connected with the village of Amouli on the southern shore of Tutuila by a steep, narrow, unpaved 1.4 mile road with inadequate drainage. The only other source of transportation to the hospital, jobs, and stores on the southern shore is by boat. The 2.6 mile road from the Airport to Ili'ili is unpaved with poor drainage, and was constructed over 10 years ago. Subsequent development of residences, a golf course, and a night club in this area, and its proximity to the Airport and the Industrial Park, have increased traffic far beyond the intentions of the original design.

The Fitiuta-Tau is 9'9 miles long and represents the only means of contact between the villages on Tau Island. Education Department refuse to send regular length buses because of bad turns. Since the airstrip, wharf, dispensary, high school, post office and other facility are all in Tau Village, this road is very vital to both Fitiuta and Faleasao, since about approximately 4,000 people reside on Tau Island present condition is passable but easily destroyed by rain.

Program of Work:

In FY 1978, approximately five miles of the 30-mile main paved highway will be resurfaced, and areas of critical sub-surface failure will be rebuilt. The Amouli-Aoa road will be widened to 24 feet on an improved alignment, provided with proper drainage structure, and paved. A guard rail will also be constructed. The Airport-Ili'ili road will be graded, provided with improved drainage, and paved. The Fitiuta - Tau road funding will provide initial design and grading work.

Description	Estimated Cost
Resurfacing of main highway & sub-surface rehabilitation	$ 550,000
Amouli-Aoa road	760,000
Airport-Ili'ili road	340,000
Fitiuta-Tau road	310,000
Total Estimated Costs	$1,960,000

4. Community College Fine Arts Building, $204,000.

Need for Program:

At present, the fine arts are neglected in the curriculum at the Community College due to lack of suitable space. A facility is needed for the instruction of drawing and painting, ceramics, native arts, and music. The present music room is planned to be converted into a lecture hall and faculty office space.

Program of Work:

In FY 1978, a 3,400 sq. ft. Fine Arts Building will be constructed, equipped, and furnished at the Community College. This facility will house a drawing/painting laboratory, ceramics classroom and storage space, and a new instrumental and choral music room. Estimated costs are as follow:

Description	Estimated Cost
Architectual & engineering design	$ 11,000
Construction	178,000
Equipment & furnishings	15,000
Total Estimated Costs	$204,000

5. Community College Science Building, $415,000.

Need for Program:

A new facility is needed to house the biological, physical and health science programs at the Community College. Classrooms and laboratories currently being used for physical and biological science courses are needed for other programs where space limitations are deleterious to program development and expansion. Also, the College is unable to provide physical space for the nursing education program which has been transferred from the Department of Medical Services. Due to the lack of adequate and proper storage space, there is a rapid deterioration of precision science equipment, chemicals and specimens due to the hot and humid climate.

Program of Work:

In FY 1978, a 7,000 sq. ft. Science Building will be constructed, furnished, and equipped at the Community College. This facility will be fully air conditioned for the protection of equipment, and will include laboratories for chemistry, physics, biological science, and health science and nursing. Also contained will be four classrooms for approximately 30 students each, and eight faculty offices. Estimated costs are as follow:

Description	Estimated Cost
Architectual & engineering design	$ 25,000
Construction	340,000
Equipment & furnishings (including laboratory & classroom science equipment)	50,000
Total Estimated Costs	$415,000

6. Vocational Trades Building, $196,000.

Need for Program:

American Samoa presently has a shortage of individuals skilled in the field of automobile body repair and painting. This is a field with many employment opportunities, both in American Samoa and the United States. Training in this field is particularly relevant in American Samoa as this trade requires only a minimum facility with English usage, but emphasizes the visual and sensual skills. Existing facilities at the Vocational Skills Center at Tafuna are operating at full capacity. No program expansion can occur without obtaining additional space.

Program of Work:

In FY 1978, a new 2,800 sq. ft. Vocational Trades Building will be constructed and equipped at the Community College. The facility will include a paint booth and dryer, one classroom, an instructor's office, and a tool room. Space will be provided for four head-to-head stalls to accommodate eight cars in the body repair shop, with a workbench dividing the stalls. Estimated costs are as follow:

Description	Estimated Cost
Architectual & engineering design	$ 15,000
Construction	151,000
Equipment (air compressor, paint spray equip., frame straightener, wheel aligner, etc.)	30,000
Total Estimated Costs	$196,000

7. School Buses, $105,000.

Need for Program:

The Department of Education presently owns and operates 23 school buses on Tutuila, the principal island of American Samoa. Seven of these buses have wooden-type bodies which were constructed locally in 1968. These wooden bodies are deteriorating badly, and costs of maintaining both bodies and engines of these older buses is becoming quite expensive. Because of continually arising mechanical defects, these buses are no longer safe for transportating school children.

Program of Work:

Five of the wooden-body school buses will be replaced during FY 1977. In FY 1978, the remaining two buses of this type will be replaced, and three additional buses will be acquired to fully meet the transportation needs of all school children in American Samoa. Purchase and shipment costs of five modern buses with seating capacities of approximately 64 children per bus are estimated at $21,000 each.

8. Solid Waste, Sewer, & Water System Equipment, $100,000.

Need for Program:

Presently, the sanitary landfill operations of the Department of Public Works are handicapped by the use of a tracked vehicle for solid waste compaction and a bucket loader for transport and spread of cover material. A specialized solid waste compaction machine and a wheeled shovel loader are needed to provide more effective handling of solid waste and cover material, thereby extending sanitary landfill life. In addition, high operating costs of existing maintenance vehicles necessitate a change to more modern and specialized equipment. Sewer and water system maintenance vans, equipped with adequate repair tools and materials, will greatly improve operational effectiveness and efficiency.

Program of Work:

During FY 1978, the following solid waste, sewer, and water system equipment will be purchased:

Description	Estimated Cost
Solid waste compaction machine	$ 60,000
Wheeled shovel loader	25,000
Sewer maintenance van	7,500
Water maintenance van	7,500
Total Estimated Costs	$100,000

9. Construction Equipment, $390,000.

Need for Program:

There is a continuing need to acquire new construction equipment to replace older equipment which becomes inoperable or too expensive to maintain. The Equipment Services Branch of the Department of Public Works is the only integrated construction operation in the Territory, and provides equipment for construction, ship unloading, and maintenance to other GAS organizations, and to contractors and individuals within the private sector. It is necessary to maintain a good, servicable amount of heavy construction equipment to meet not only capital improvement and operational requirements, but also for emergency and disaster situations. Much of the presently owned equipment was obtained from military surplus sources.

Program of Work:

During FY 1978, the following pieces of construction equipment will be purchased:

Description	Estimated Costs
Bulldozer	$210,000
Asphalt paver	60,000
Asphalt distributor	50,000
Airtrack drill	40,000
Aggregate spreader (2)	30,000
Total Estimated Costs	$390,000

GOVERNMENT OF AMERICAN SAMOA

Summary of Personnel Positions
U.S. Civil Service, Contract, & Local

	Number of Positions		
	FY 1976	FY 1977	FY 1978
Direct Appropriations			
Governor's Office	19	18	17
Judiciary (High Court)	15	16	18
	34	34	35
Education & Culture			
Department of Education	819	762	741
Board of Higher Education	69	72	71
	888	834	812
Health			
Department of Medical Services	381	383	367
Economic Development			
Department of Agriculture	21	5	5
Office of Tourism	2	4	4
	23	9	9
Trans., Comm., & Power			
Department of Port Administration	76	68	63
General Government			
Local Judiciary	6	6	6
Legislature	81	81	81
Department of Admin. Services	103	118	120
Office of Planning & Budget	8	8	8
Office of Material Management	28	72	79
Office of Manpower Resources	33	34	32
Department of Public Works	353	422	574
Department of Legal Affairs	40	40	37
Local Government	92	92	92
Audit Office	8	5	10
Office of Samoan Information	5	5	5
	757	883	1,044

	Number of Positions		
	FY 1976	FY 1977	FY 1978
Public Safety			
Department of Public Safety	135	115	124
Total Basic Operating Budget	2,294	2,326	2,454
Capital Improvements			
Construction Projects	60	50	60
Other			
Revolving Funds 1/	482	434	273
Other Federal Grant Programs 2/	1,068	942	917
	1,550	1,376	1,190
Total GAS	3,904	3,752	3,704

1/ Includes enterprise, intragovernmental service, & special revenue funds

2/ Include CETA & College Work Study (HEA) temporary personnel

GOVERNMENT OF AMERICAN SAMOA

Summary of Personnel Positions
U.S. Civil Service & Contract

	Number of Positions		
	FY 1976	FY 1977	FY 1978
Direct Appropriations			
Governor's Office	6	7	6
Judiciary (High Court)	6	6	6
	12	13	12
Education & Culture			
Department of Education	51	44	33
Board of Higher Education	10	12	11
	61	56	44
Health			
Department of Medical Services	19	20	20
Economic Development			
Department of Agriculture	3	0	0
Office of Tourism	0	1	1
	3	1	1
Trans., Comm., & Power			
Department of Port Administration	4	4	3
General Government			
Local Judiciary	0	0	0
Legislature	2	4	4
Department of Admin. Services	14	20	19
Office of Planning & Budget	2	3	3
Office of Material Management	1	1	1
Office of Manpower Resources	3	3	2
Department of Public Works	22	23	22
Department of Legal Affairs	3	3	3
Local Government	0	0	0
Audit Office	1	2	3
Office of Samoan Information	2	2	2
	50	61	59

	Number of Positions		
	FY 1976	FY 1977	FY 1978
Public Safety			
Department of Public Safety	1	2	2
Total Basic Operating Budget	150	157	141
Capital Improvement			
Construction Projects	0	0	0
Other			
Revolving Funds 1/	7	6	7
Other Federal Grant Programs	45	51	50
	52	57	57
Total GAS (USCS & Contract)	202	214	198

1/ Includes enterprise, intragovernmental service, & special revenue funds

GOVERNMENT OF AMERICAN SAMOA

Summary of Personnel Positions
Local

	Number of Positions		
	FY 1976	FY 1977	FY 1978
Direct Appropriations			
Governor's Office	13	11	11
Judiciary (High Court)	9	10	12
	22	21	23
Education & Culture			
Department of Education	768	718	708
Board of Higher Education	59	60	60
	827	778	768
Health			
Department of Medical Services	362	363	347
Economic Development			
Department of Agriculture	18	5	5
Office of Tourism	2	3	3
	20	8	8
Trans., Comm., & Power			
Department of Port Administration	72	64	60
General Government			
Local Judiciary	6	6	6
Legislature	79	77	77
Department of Admin. Services	89	98	101
Office of Planning & Budget	6	5	5
Office of Material Management	27	71	78
Office of Manpower Resources	30	31	30
Department of Public Works	331	399	552
Department of Legal Affairs	37	37	34
Local Government	92	92	92
Audit Office	7	3	7
Office of Samoan Information	3	3	3
	707	822	985

	Number of Positions		
	FY 1976	FY 1977	FY 1978
Public Safety			
Department of Public Safety	134	113	122
Total Basic Operating Budget	2,144	2,169	2,313
Capital Improvement			
Construction Projects	60	50	60
Other			
Revolving Funds 1/	475	428	266
Other Federal Grant Programs 1/	1,023	891	867
	1,498	1,319	1,133
Total GAS (Local)	3,702	3,538	3,506

1/ Includes enterprise, intragovernmental service, & special revenue funds
2/ Includes CETA & College Work Study (HEA) temporary personnel

TERR 86

83-561 O - 77 - 74

GOVERNMENT OF AMERICAN SAMOA

FY'77-'78 LOCAL REVENUE ANALYSIS/PROJECTIONS

Description (Source)	Actual FY 1976	Estimated FY 1977	Estimated FY 1978
Dept. of Agriculture			
Sale of Livestock	6,964	-0-	-0-
Inspection Fees	1,653	-0-	-0-
All Other Agriculture	23,547	-0-	-0-
Sub-totals	32,164	-0-	-0-
Dept. of Admin. Services			
Licenses	119,142	120,000	126,000
Interest	2,703	30,000	30,000
Income Tax - Individual	1,405,639	1,600,000	1,700,000
Income Tax - Corporate	1,923,572	2,500,000	3,000,000
Printing Services	-0-	-0-	56,000
All Other Admin. Services	4,946	4,000	4,000
Sub-totals	3,456,002	4,254,000	4,916,000
Office of Material Mgmt.			
Rents & Leases	216,229	242,000	254,000
Supply Charges	-0-	-0-	169,000
Sub-totals	216,229	242,000	423,000
Dept. of Medical Services			
Hospital Care/Nursing	181,868	198,000	200,000
Pharmacy	10,608	10,000	10,000
All Other Medical Services	35,102	10,000	10,000
Sub-totals	227,578	218,000	220,000
Dept. of Public Works			
Water	66,342	78,000	82,000
Aerial Tramway	7,001	16,000	17,000
Construction Products	-0-	120,000	600,000
Heavy Equipment Rental	-0-	184,000	903,000
Vehicle Services	-0-	-0-	250,000
All Other Public Works	4,443	6,000	7,000
Sub-totals	77,786	404,000	1,859,000

Description (Source) (Cont'd.)	Actual FY 1976	Estimated FY 1977	Estimated FY 1978
Dept. of Port Administration			
Excise Taxes	1,046,710	1,100,000	1,155,000
Customs Charges	39,015	45,000	57,000
Water Transportation Services	-0-	527,000	553,000
Pier & Dock Services, Harbor Charges	425,886	500,000	525,000
All Other Port Admin.	104,427	50,000	50,000
Sub-totals	1,616,038	2,222,000	2,330,000
Misc. Other Revenue			
Court Fees & Fines	77,858	85,000	85,000
Permits	43,619	34,000	34,000
Data Processing Charges	11,274	-0-	-0-
All Other Misc.	144,806	15,000	15,000
Sub-totals	277,557	134,000	134,000
Enterprise Fund Surplus			
Liquor Store	306,007	315,000	331,000
TOTAL LOCAL REVENUES	6,209,361	7,789,000	10,213,000
Less: Reimbursement of Income Tax Reserve Account	-0-	-0-	(1,000,000)
Reserve for Contingencies	-0-	-0-	(500,000)
TOTAL AVAILABLE LOCAL REVENUES	6,209,361	7,789,000	8,713,000

GOVERNMENT OF AMERICAN SAMOA

FY 1978 ANTICIPATED FEDERAL GRANT PROGRAMS
(Local Share Includes Cash Match Only)

GAS Department or Office (Grant Recipient)	U.S. Department and Agency (Grantor)	Authorizing Legislation (Name of Grant)	Purpose of Grant	Federal Share	Local Share	Total Program
OPERATIONS:						
Dept. of Education	Health, Education & Welfare Office of Educ.	Elementary & Secondary Educ. Act, Title I	Assistance for educationally deprived	408,000	-0-	408,000
		" " , Title IV	Supplemental education centers	320,000	-0-	320,000
		Elementary & Secondary Educ. Act, Title VII	Bilingual/bicultural education	130,000	-0-	130,000
		Emergency School Aid Act, Title VII	Assistance for educationally disadvantaged	341,000	-0-	341,000
		Library Services & Contr. Act, Title I	Library services	45,000	-0-	45,000
		" , Title III	Inter-library cooperation	10,000	-0-	10,000
		Education of Handicapped Act, Title VI B	Handicapped school programs	234,000	-0-	234,000
		Vocational Educ. Act Title I, Part B	Secondary vocational education	51,000	-0-	51,000
	Office of Child Develop.	Econ. Opportunity Act Section 243 (Head Start)	Preparation pre-school children	108,000	-0-	108,000

GAS Department or Office, (Grant Recipient)	U.S. Department and Agency (Grantor)	Authorizing Legislation (Name of Grant)	Purpose of Grant	Federal Share	Local Share	Total Program
	Agriculture Food & Nutrition Service	National School Lunch Act	School lunch & breakfast programs	1,190,000	-0	1,190,000
	Corporation for Public Broadcasting	Public Broadcasting Act	Community service TV programs	215,000	-0	215,000
		SUB-TOTALS		3,052,000	-0	3,052,000
Board of Higher Education	Health, Education & Welfare Office of Educ.	Higher Education Act Title I	Community services & continuing education	26,000	-0-	26,000
		HEA, Title III	Instructional development	100,000	-0-	100,000
		HEA, Title IV	Student financial aid	100,000	20,000	120,000
		HEA, Title VII	Post-secondary education planning	27,000	-0-	27,000
		Vocational Educ. Act	Vocational educ. in Community College	77,000	-0-	77,000
		Adult Basic Educ. Act	Adult educ. in Community College	124,000	-0-	124,000

GAS Department or Office (Grant Recipient)	U.S. Department and Agency (Grantor)	Authorizing Legislation (Name of Grant)	Purpose of Grant	Federal Share	Local Share
	Dept. of Labor Manpower Admin.	Comprehensive Employment Training Act	Job training for disadvantaged & summer youth	12,000	-0
	Dept. of Commerce National Oceanic & Atmospheric Admin.	National Sea Grant College & Program Act	Commercial fishery instruction training	49,000	-0-
		SUB-TOTALS		515,000	20,000
Advisory Council on Vocational Education	Health, Education & Welfare Office of Educ.	Vocational Education Act	Evaluation of vocational education programs	64,000	-0-
Arts Council	National Foundation of Arts & Humanities National Endowment for the Arts	National Foundation on the Arts & Humanities Act	Operation of museum & Arts Council	147,000	43,000
Dept. of Medical Services	Health, Education & Welfare Public Health Service	National Health Planning & Resources Development Act	Comprehensive health planning	79,000	26,000

GAS Department or Office (Grant Recipient)	U.S. Department and Agency (Grantor)	Authorizing Legislation (Name of Grant)	Purpose of Grant	Federal Share	Local Share	Total Program
		Health Revenue Sharing & Health Services Act, Title I	Public health operations	232,000	-0-	232,000
		" " "	Mental Health operations	63,000	-0-	63,000
		Social Security Act, Title V, Sec. 504	Crippled children's services	148,000	-0-	148,000
		Social Security Act. Title V, Sec. 503	Maternal & child health services	116,000	-0-	166,000
		SUB-TOTALS		688,000	26,000	714,000
Office of Marine Resources	Dept. of Commerce National Marine Fisheries Service	Commercial Fisheries Research & Develop. Act	Fisheries research & development	93,000	31,000	124,000
	Dept. of Interior Bureau of Sports Fisheries & Wildlife	Federal Aid in Sport Fish Restoration Act	Sport fisheries inventory & develop.	54,000	-0-	54,000
		SUB-TOTALS		147,000	31,000	178,000

GAS Department or Office (Grant Recipient)	U.S. Department and Agency (Grantor)	Authorizing Legislation (Name of Grant)	Purpose of Grant	Federal Share	Local Share	Total Program
Development Planning Office	Dept. of Commerce Economic Develop. Admin.	Public Works & Economic Development Act	Planning assistance	65,000	85,000	150,000
	Dept. of Housing & Urban Development Community Planning & Management	Housing Act, Sec. 701	Comprehensive territorial plan	38,000	19,000	57,000
		SUB-TOTALS		103,000	104,000	207,000
Dept. of Manpower Resources	Dept. of Labor Manpower Admin.	Comprehensive Employment Training Act	Job training for disadvantaged & summer youth	682,000	-0-	682,000
	Bureau of Labor Statistics	Occupational Safety & Health Act	Ongoing occupational injury statistics programs	8,000	5,000	13,000
	Workplace Standards Admin.	" " "	State planning	18,000	-0-	18,000
	Civil Service Comm.	Intergovernmental Personnel Act	Improvement of personnel management	67,000	3,000	70,000
		SUB-TOTALS		775,000	8,000	783,000

CAS Department or Office (Grant Recipient)	U.S. Department and Agency (Grantor)	Authorizing Legislation (Name of Grant)	Purpose of Grant	Federal Share	Local Share	Total Program
Governor's Office	Health, Education & Welfare Administration on Aging	Older American Act, Title III	Handicraft & nutritional programs for the elderly	779,000	101,000	880,000
	Dept. of Transportation Nat. Highway Traffic Safety Admin./Fed Highway Admin.	Highway Safety Act	Highway safety planning	331,000	-0-	331,000
	Environmental Protection Agency	Water Pollution Control Act	Water pollution control program	59,000	15,000	74,000
		SUB-TOTALS		1,169,000	116,000	1,285,000
Dept. of Public Works	Dept. of Interior Geological Survey	Geological Survey Act	Cooperative water resources program	23,000	10,000	33,000
	Dept. of Transportation Fed. Highway Admin.	Federal highway Act	Highway planning	30,000	12,000	42,000
		SUB-TOTALS		53,000	22,000	75,000
Criminal Justice Planning Agency	Dept. of Justice Law Enforcement Assistance Administration	Omnibus Crime Control & Safe Streets Act	Law enforcement planning	143,000	16,000	159,000

GAS Department or Office (Grant Recipient)	U.S. Department and Agency (Grantor)	Authorizing Legislation (Name of Grant)	Purpose of Grant	Federal Share	Local Share	Total Program
		Omnibus Crime Control & Safe Streets Act	Law enforcement action programs	607,000	24,000	631,000
		SUB-TOTALS		750,000	40,000	790,000
		Total FY 1978 Operating Grant Programs		7,463,000	410,000	7,873,000

GAS Department or Office (Grant Recipient)	U.S. Department and Agency (Grantor)	Authorizing Legislation (Name of Grant)	Purpose of Grant	Federal Share	Local Share	Total Program
CAPITAL IMPROVEMENTS:						
Dept. of Public Works	Environmental Protection Agency	Water Pollution Control Act	Sewer construction	1,100,000	367,000	1,467,000
	Dept. of Defense Army Corps of Engineers	Flood Control Act	Seawall construction	1,050,000	1,050,000	2,100,000
	Dept. of Interior Bureau of Outdoor Recreation	Land & Conservation Act	Recreational facilities	125,000	125,000	250,000
		Total FY 1978 Capital Improvement Grants		2,275,000	1,542,000	3,817,000
		TOTAL FY 1978 ANTICIPATED GRANT PROGRAMS		9,738,000	1,952,000	11,690,000

GOVERNMENT OF AMERICAN SAMOA

FY 1978 ENTERPRISE AND SPECIAL REVENUE FUNDS

Activity	Estimated Revenue	Estimated Expenditures	Surplus/ (Deficit)
Airport 1/	961,000	961,000 3/	-0-
Electric Utility 1/	2,780,000	2,751,500	28,500
Communications 1/	1,090,000	990,000	100,000
Public Market 1/	41,600	33,500	8,100
Liquor Store 1/	778,500	447,500	331,000
Driver Training 2/	45,000	45,000	-0-
Road Maintenance 2/	206,500	206,500	-0-
TOTALS	5,902,600	5,435,000	467,600

1/ Enterprise Fund
2/ Special Revenue Fund
3/ Includes both operating expenses and partial repayment of loan from General Fund.

ADMINISTRATION OF TERRITORIES

Program and Financing (in thousands of dollars)

	1976 actual	TQ actual	1977 Estimate	1978 Estimate
Program by activities:				
Direct Program				
1. Guam:				
(A) Loans	1,053	---	5,096	--
(B) Grants	238	---	2,951	--
(C) Economic Development Fund	1,000	---	1,000	500
(D) Emergency grants	---	12,671	7,329	--
2. American Samoa:				
(A) Governor's Office	325	86	476	389
(B) Chief Justice & High Court	223	104	527	380
(C) Grants	18,130	2,937	20,676	19,732
Total direct program	20,969	15,798	38,055	21,001
Reimbursable Program				
1. Virgin Islands, comptroller's office	812	234	1,040	1,120
2. Guam, comptroller's office	724	180	940	1,250
Total reimbursable program	1,536	414	1,980	2,370
Total program costs funded	22,505	16,212	40,035	23,371
Change in selected resources	128	8,666	-1,157	---
10.00 Total obligations	22,633	24,878	38,878	23,371
Financing:				
11.00 Offsetting collections from: Federal funds	-1,528	-414	-1,980	-2,370
21.00 Unobligated balance available start of period	-7,038	-13,686	-13,026	---
24.00 Unobligated balance available end of period	13,686	--	--	---
Budget Authority	27,753	23,804	23,872	21,001
40.00 Appropriation	27,753	23,804	23,846	21,001
44.20 Proposed supplemental for civilian pay raises	--	--	26	--

ADMINISTRATION OF TERRITORIES
Program and Financing (cont.)

		1976 actual	T Q actual	1977 estimate	1978 estimate
Relation of obligations to outlays:					
71.00	Obligations incurred, net ...	21,105	24,464	36,898	21,001
72.00	Obligated balance, start of period	3,030	3,051	10,827	13,799
74.00	Obligated balance, end of period	-3,051	-10,827	-13,799	-14,773
90.00	Outlays, excluding pay raise supplemental	21,084	16,688	33,902	20,025
91.20	Outlays from civilian pay raise supplemental	--	--	24	2

ADMINISTRATION OF TERRITORIES

Object Classification (in thousands of dollars)

		1976 actual	T Q actual	1977 estimate	1978 estimate
	Direct Program				
	Personnel compensation:				
11.1	Permanent positions	366	79	297	307
11.5	Other personnel compensation	120	25	100	103
11.8	Special personal services payments	216	77	303	280
	Total personnel compensation	702	181	700	690
	Personnel benefits:				
12.1	Civilian	32	7	26	28
21.0	Travel & transportation of persons	14	13	50	50
22.0	Transportation of things	8	24	35	22
23.2	Rent, communications, and utilities, other	9	8	28	30
24.0	Printing & reproduction	2	2	3	10
25.0	Other services	61	63	261	61
26.0	Supplies & materials	40	6	17	21
31.0	Equipment	5	3	15	13
33.0	Investments & loans	1,022	--	3,230	---
41.0	Grants, subsidies, and contributions	19,210	24,157	32,533	20,076
	Total Direct Program	21,105	24,464	36,898	21,001
	Reimbursable Program				
	Personnel compensation:				
11.1	Permanent positions	975	268	1,265	1,480
11.5	Other personnel compensation	71	15	102	135
	Total personnel compensation	1,046	283	1,367	1,615
	Personnel benefits:				
12.1	Civilian	150	40	209	249
21.0	Travel & transportation of persons	132	25	143	158
22.0	Transportation of things	33	10	56	84
23.2	Rent, communications & utilities, other	75	20	96	98
24.0	Printing & reproduction	1	2	6	6
25.0	Other services	75	25	80	125
26.0	Supplies & materials	15	6	15	21
31.0	Equipment	1	3	8	14
	Total Reimbursable Program	1,528	414	1,980	2,370
99.0	Total obligations	22,633	24,878	38,878	23,371

ADMINISTRATION OF TERRITORIES

Personnel Summary	1976 actual	1977 estimate	1978 estimate
Direct:			
Total number of permanent positions	15	15	9
Average paid employment	10	12	9
Reimbursable:			
Total number of permanent positions	62	62	66
Average paid employment	58	57	63
Average GS grade	10.76	10.70	10.86
Average GS salary	20,886	21,614	22,059
Average salary of ungraded positions	$5,253	$6,660	$7,368

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

TRUST TERRITORY OF
THE PACIFIC ISLANDS

83-561 O - 77 - 75

Trust Territory of the Pacific Islands

Opening Statement

Because of events that have happened since the presentation of the FY 1977 budget the budget presentation presented herein has changed.

On March 24, 1976, Public Law 94-241, To approve the "Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America," and for other purposes, was approved. Secretarial Order 2989 of the Department of the Interior dated March 24, 1976, stated that a Memorandum of Understanding shall provide for joint and mutual support services on a reciprocal and equitable basis in the interest of both the Trust Territory Government and the Northern Mariana Islands Government which became effective on April 1, 1976. Therefore that portion of the enacted FY 1977 budget which was determined by both of the above parties to be for the Northern Mariana Islands Government was transferred to them.

Although both the Trust Territory and Northern Mariana Islands Government are considered under the same account separate presentations are provided for their portion of the budget request. The accompanying tables show this breakout.

Status of Authorizations

1. Authorization for Trust Territory of the Pacific Islands P.L. 94-255 expires at the end of FY 1977. Authorization for the Trust Territory, $73,110,000, and the Government of the Northern Mariana Islands, $13,515,000, will be proposed for FY 1978. Authorization for the Northern Mariana Islands is required until the funding provisions of the Covenant mentioned above are met. At that time the authorization for funding contained in the Covenant will apply to the Government of the Northern Mariana Islands.

2. Authorization of $12,400,000 is being proposed for the rehabilitation of Enewetak Atoll in order to resettle the inhabitants who were removed for the atomic test program. Funding will be sought in a FY 1977 supplemental request of $4,000,000, and $8,400,000 in the FY 1978 request.

3. Authorization for ex-gratia compensation for the inhabitants of Rongelap and Utirik Atolls will be proposed in order to compensate those people who have suffered thyroid abnormalities including cancer, resulting from radioactive fallout from the atomic test program. A funding request of $1,058,000 will be requested to cover all present known cases in FY 1978.

4. A FY 1977 supplemental request of $2,600,000 will be requested for support of a radiological survey of the Northern Marshall Islands. Authorization for this funding is provided under the current Trust Territory of the Pacific Islands authorization P.L. 94-255.

TRUST TERRITORY OF THE PACIFIC ISLANDS

Total Appropriation

Appropriation, 1976	$77,196,000	
Pay Cost Supplemental	108,000	
Second Supplemental Appropriation	9,134,000	
Total Appropriation, 1976		$86,438,000
Appropriation, 1977		$79,077,000
Pay Cost Supplemental		180,000
Total available		79,257,000 1/

Summary of Increase/Decrease, 1978

	Base for 1978	Increase 1978
High Commissioner's Office	$508,000	-2,000
Judiciary: Decrease of funding due to the transfer of functions to Northern Marianas Government	862,000	-36,000
Federal Comptroller's Office: To provide for expanded program as authorized and required by P.L. 93-111	260,000	+186,000
Grants: The net increase of $4,695,000 consists of increases of $494,000 for operations, and $4,201,000 for construction	66,637,000	+4,695,000
Government of the Northern Mariana Islands, Grants: The net increase $2,525,000 consists of increases of $2,362,000 for operations and $163,000 for construction	10,990,000	+2,525,000
Enewetak Rehabilitation: To provide for the rehabilitation of Enewetak Atoll in order to resettled the inhabitants removed for atomic testing	---	+8,400,000
Rongelap and Utirik Compensation: To provide ex-gratia compensation for residents of Rongelap and Utirik who suffered thyroid abnormalities including cancer from atomic test program	---	+1,058,000

Government of the Northern Mariana Islands:	
Additional funding provision for governmental operations once the funding requirements of the Covenant P.L. 94-255 are met	+2,614,000
Net Increase 1978	19,440,000
Budget Estimate, 1978	98,697,000

1/ Does not include proposed supplementals of $7,844,000 for current dollar adjustment, $2,600,000 for support of radiological survey of the Northern Marshalls, and $4,000,000 for rehabilitation of Enewetak Atoll.

The following table shows for FY 1978 the breakout of requested authorizations and appropriation language as contained in the Presidents Budget.

Trust Territory Government	73,110,000
Northern Mariana Islands Government	13,515,000
Total Trust Territory of the Pacific Islands	$86,625,000
Enewetak Rehabilitation	8,400,000
Rongelap and Utirik Compensation	1,058,000
Total other request	9,458,000
Northern Mariana Islands, Assitional funding request once funding provisions of covenant are met	2,614,000
Grand Total FY-78 request	98,697,000

TRUST TERRITORY OF THE PACIFIC ISLANDS
Analysis of Enacted FY 77, Activity Change, and Funds
Transferred to Northern Mariana Islands Gov.

Activity	FY 1977 Enacted	Activity Change	Transferred To NMG 3/	Pay Cost Supp.	Revised FY 1977
Direct Appropriation:					
1. High Commissioner's Office.	$ 500,000	$ ---	$ ---	$ + 8,000	$ 508,000
2. Judiciary	290,000	+ 565,000 1/	---	+ 7,000	862,000
3. Federal Comptroller's Office.	250,000	---	---	+ 10,000	260,000
Total, Direct Appropriation.	1,040,000	+ 565,000	---	+ 25,000	1,630,000
Grants: (Trust Territory Government)					
4. a. Operations:					
(1) Health Services.	9,850,000	---	-1,824,800	+ 7,400	8,032,600
(2) Education.	14,700,000	---	-2,151,300	+ 12,900	12,561,600
(3) Public Affairs	1,830,000	---	117,700	+ 4,200	1,716,500
(4) Resources and Development.	6,252,000	- 380,000 2/	- 220,400	+ 25,300	5,676,900
(5) Protection to Persons and Property .	3,095,000	- 565,000 1/	- 27,800	+ 25,700	2,527,900
(6) Administration	6,689,000	---	- 664,300	+ 55,200	6,079,900
(7) Transportation and Communications. .	3,885,000		- 55,400	+ 5,000	3,834,600
(8) Public Works	11,068,000		-2,148,300	+ 9,300	8,929,000
(9) Development Technical Assistance . .	---	+ 380,000 2/	---	---	380,000
Total Operations	57,369,000	- 565,000	-7,210,000	+145,000	49,739,000
b. Construction - Total	20,668,000	---	-3,770,000	---	16,898,000
Total Grants Trust Territory Government . . .	78,037,000	- 565,000	-10,980,000	+145,000	66,637,000
Total Trust Territory Government.	79,077,000	---	-10,980,000 3/	+170,000	68,267,000
5. Northern Marianas Islands Government					
(1) Grant Operations.	---	---	+ 7,210,000	+ 10,000	7,220,000
(2) Grant Construction.	---	---	+ 3,770,000	---	3,770,000
Total Northern Mariana Islands	---	---	+10,980,000	+ 10,000	10,990,000
Grant Total Appropriation	79,077,000	---	---	+180,000	79,257,000

1/ Local Courts previously funded as a sub-activity under grants, Protection to Persons and Property has been transferred to the Judiciary activity in the Direct Appropriation. This was done at the request of the Chief Justice who controls both the High Court, and Local Courts in administration and funding.

2/ Development Technical Assistance, sub-activity, has been made a major activity under grant operations.

3/ The transfer of funds to the Northern Mariana Islands Government is in accordance with Secretarial Order 2989 of March 24, 1976, and the Memorandum of Understanding between the Trust Territory Government and the Northern Mariana Islands Government.

Trust Territory of the Pacific Islands

Analysis by Activity

Activity	FY 76 Obligations	FISCAL YEAR 1977 Total Appropriation	Unobligated Balances	Pay Act Costs	Amount Available
1. High Commissioner's Office.	$ 499,589	$ 500,000	$ 2,850	$ 8,000	$ 510,850
2. Judiciary	458,500	855,000	411	7,000	862,411
3. Federal Comptroller's Office. . . .	240,031	250,000	3,247	10,000	263,247
4. Grants, Trust Territory , ...	62,222,685	66,492,000	13,484,251 1/	145,000	80,121,251
5. Economic Development Loan Fund. . .	1,000,000	---	---	---	---
6. Bikini ex-gratia payments	3,000,000	---	---	---	---
7. Northern Marianas Transition. . . .	507,340	---	631,089	---	631,089
8. Northern Mariana Islands, Grants. .	---	10,980,000	2,498,357 1/	10,000	13,488,357
Total	$67,948,145	$79,077,000 2/	$16,620,205	$180,000	$95,877,205

1/ Includes Capital Improvement carryover of $13,827,115 needed to complete projects previously justified. Trust Territory Government $11,556,694; Northern Mariana Islands Government $2,270,421.

2/ Does not include proposed supplementals of $7,844,000 for the Trust Territory and Northern Mariana Islands Government operations, Trust Territory $6,962,000, Northern Mariana Islands $882,000; $4,000,000 for Enewetak rehabilitation, and $2,600,000 for support of a radiological survey of the Northern Marshall Islands.

TTPI 6

Trust Territory of the Pacific Islands
Analysis by Activities

Activity	FY 76 Amount Obligated	FY 77 Program	FY 78 Estimate	Increase (+) or Decrease (-) 1978 compared with 1977
1. High Commissioner's Office	$ 499,589	$ 510,850	$ 506,000	$ - 4,850
2. Judiciary.	458,500	862,411	826,000	- 36,411
3. Federal Comptroller's Office . . .	240,031	263,247	446,000	+ 182,753
4. Grants, Trust Territory.	62,222,685	80,121,251	71,332,000	-8,789,251
5. Economic Development Loan Fund . .	1,000,000	---	---	---
6. Bikini ex-gratia payments.	3,000,000	---	---	---
7. Northern Marianas Transition . . .	527,340	631,089	---	- 631,089
8. Northern Marianas Islands, Grants.	---	13,488,357	13,515,000	+ 26,643
9. Enewetak Rehabilitation.	---	---	8,400,000	+8,400,000
10. Rongelap and Utirik Compensation .	---	---	1,058,000	+1,058,000
11. Northern Mariana Islands - Additional Funding	---	---	2,614,000	+2,614,000
Total	$67,948,145	$95,877,205 1/	$98,697,000	$+2,819,795

The estimate of $98,697,000 represents an increase of $19,440,000 in budget authority over FY 1977, including the FY 1977 Pay Act supplemental, exclusive of carryover funds of $16,620,205.

High Commissioner's Office.	$ - 2,000
Judiciary	-36,000
Federal Comptroller's Office.	+ 186,000
Grants, Trust Territory	+4,695,000
Grants, Northern Mariana Islands. . .	+2,525,000
Enewetak Rehabilitation	+8,400,000
Rongelap and Utirik Compensation. . .	+1,058,000
Northern Mariana Islands Additional Funding	+2,614,000

1/ Does not include proposed supplementals of $7,844,000 for the Trust Territory Government, and the Northern Mariana Islands Government, $4,000,000 for Enewetak rehabilitation, and $2,600,000 for radiological surveys of the Northern Marshalls.

TRUST TERRITORY OF THE PACIFIC ISLANDS

Summary of Increases and Decreases Without Supplementals

	FY-77 Enacted	Pay Act Cost	Proposed Supp.	Total	Fy-78 Estimate	Inc. (+) or Dec. (-) over FY-1977
Trust Territory Government.....	68,097,000	170,000	-	$68,267,000	73,110,000	+4,843,000
Northern Mariana Islands Government	10,980,000	10,000	-	10,990,000	13,515,000	+2,525,000
T o t a l	79,077,000	180,000	-	79,257,000	86,625,000	+7,368,000

Summary of Increases and Decreases With Supplemental & Proposed Legislation

Trust Territory Government.....	68,097,000	170,000	6,962,000 1/	$75,229,000	$73,110,000 3/	-2,119,000
Northern Mariana Islands Government	10,980,000	10,000	882,000 1/	$11,872,000	$13,515,000 3/	+1,643,000
Enewetak Rehabilitation	--	--	4,000,000 2/	4,000,000	8,400,000	+4,400,000
Rongelap & Utirik Compensation ...	--	--	--	--	1,058,000 3/	+1,058,000
Radiological Survey Northern Marshalls	--	--	2,600,000 1/	2,600,000	--	-2,600,000
Northern Mariana Islands Additional funding -	--	--	--	--	2,614,000 4/	+2,614,000
T o t a l	79,077,000	180,000	14,444,000	93,701,000	98,697,000	+4,996,000

1/ Supplemental existing legislation.
2/ Supplemental proposed legislation.
3/ Requested under proposed legislation.
4/ Requested existing legislation once provisions of authorization are met.

TRUST TERRITORY GOVERNMENT
TRUST TERRITORY OF THE PACIFIC ISLANDS

HIGHLIGHT STATEMENT

Fiscal Year 1978

Preface

Approval of House Joint Resolution 549 on March 24, 1976, established the former Marianas District of the Trust Territory Administration as the Northern Mariana Islands Government, but did not set it apart from the Trust Territory of the Pacific Islands. The remaining portion of the Trust Territory Administration has been redesignated as the Trust Territory Government though it is responsible only for the administration of the Caroline and Marshall Islands. Accordingly, there are now two coordinate governments administering the Trust Territory. Each is separately submitting its FY 1978 budget requirements. The budget now before you is the Trust Territory Government Budget.

General Description of the Trust Territory of the Pacific Islands

The Trust Territory of the Pacific Islands covers some 3 million square miles of the Western Pacific Ocean just above the equator, ranging from about 1 degree to 22 degrees north latitude and 130 degrees to 172 degrees east longitude. The Territory embraces more than 2,000 islands and islets, lying in three major archipelagoes: the Carolines, the Marshalls, and the Marianas.

The entire area is called Micronesia, or the "Tiny Islands." Guam in the Marianas and the Gilbert Islands south of the Marshalls, however, are not part of the Trust Territory.

The Territory's more than 2,000 islands range from large volcanic islands to tiny coral islets linking the circular chain of rock and vegetation which form a coral atoll. Most islands in the Eastern Carolines and the Marshalls are of coral formation. Remnants of a vast undersea volcanic ridge, stretching southward from Japan along the western perimeter of the Territory, from the Mariana and Western Caroline Islands. The Eastern Carolines and all of the Marshall Islands rest on another series of submarine elevators. The largest islands are Babelthaup, Palau District and Ponape Island, Ponape District. Elevations range from about six feet on a coral atoll to 3,166 feet on Agrihan Island, Marianas.

Trust Territory of the Pacific Islands

Population and land area data for the six districts are as follows:

District	Population 1/	Land Area 2/	Population per Square Mile
Palau	12,674	177.6	71.36
Yap	7,869	46.8	168.14
Truk	31,600	45.4	696.04
Ponape	19,262	145.4	132.47
Kusaie	3,989	41.1	97.06
Marshalls	25,044	69.3	361.39
Total	100,438	525.6	191.09

1/ as of the latest official census taken in 1973.
2/ in square miles.

History

Micronesia has been known to the Western World since 16th century Spanish and Portuguese explorers first visited the islands. Later explorers, traders, and whalers included the British, Germans, Russians, Japanese and Americans.

In the 19th century, development of a lucrative copra trade brought about conflict between Germany, Spain, and Great Britain, resulting in German control over the Marshalls, and Spanish sovereignty over the Carolines. In 1898, the United States acquired Guam following a war with Spain. In 1899, Spain withdrew from the Pacific and sold all her remaining possessions to Germany. Germany's administration, which encouraged development of trade and production of copra, ended in 1914 when Japanese naval squadrons took over military possession of the Marshalls, Carolines, and Marianas at the outbreak of World War I. Japan began its formal administration by a League of Nations mandate in 1920.

After the United States entered World War II in 1941, Micronesia assumed vital importance in the Pacific campaign and bitter fighting took place before the area was secured by U.S. forces.

In 1947, the Marshall, Caroline, and Mariana Islands, excluding Guam, became a United Nations Trusteeship administered by the United States.

Trust Territory of the Pacific Islands

Status of the Trust Territory

The legal status of the Territory is defined by:

(a) The Trusteeship Agreement between the United States and the United Nations Security Council which entered into force on July 18, 1947, under which the United States administers the Territory.

(b) U.S. Public Law 451, signed June 30, 1954, as amended, which states that until Congress determines otherwise, the President shall provide for the Territory's Civil administration.

(c) Executive Order 11021 of the President of the United States, signed May 7, 1962, making the Secretary of the Interior responsible for the Territory's civil administration.

(d) Trust Territory Code of January 1, 1971, and amendments.

(e) U.S. Public Law 90-16, signed May 10, 1967, providing for appointment of the High Commissioner by the President by and with the advice and consent of the Senate.

(f) Secretary of the Interior's Order 2918 of September 27, 1968, as amended, delimiting the extent and nature of the authority of the Trust Territory Government and prescribing the manner in which the Trust Territory Government shall establish and maintain relationship with the United States Congress, the Department of the Interior, and other Federal agencies, and with foreign governments and international bodies. (Order 2918 supersedes previous Interior Orders, 2876 and 2882, as amended.)

(g) Public laws enacted by the Congress of Micronesia not included in the Trust Territory Code.

Trust Territory Government Organization and Functions

Executive and administrative authority of the Trust Territory Government and responsibility for carrying out international obligations undertaken by the United States with respect to that portion of the Trust Territory which is under the jurisdiction of the TTG are vested in a High Commissioner appointed by the President of the United States and confirmed by the United States Senate.

Legislative authority rests with the bicameral Congress of Micronesia as specified by the Secretary of the Interior's Order 2918, as amended.

Judicial authority is independent of the other two branches of government and is vested in the Territory's High Court and such other courts as may be established by law. The Chief Justice and three Associate Justices of the High Court are appointed by the Secretary of the Interior.

The authority and responsibilities of territorial, district, and municipal governments are delineated by Public Law 1-6, enacted by the Congress of Micronesia in 1965.

Under Public Law 1-6, the Trust Territory Government has primary responsibility for problems of a TTG-wide nature:

-- Construction and maintenance of primary roads and harbor facilities;
-- Control of banking;
-- Organization of business corporations, business cooperatives, insurance, sale of securities, and public utilities;
-- Control of the establishment and operation of, and investment in, businesses and conditions under which importing and licenses shall be issued;
-- Making of grants to districts and municipalities;
-- Exclusive control of import, export, and income taxes;
-- Support of all judicial activities except for assistance from municipalities;
-- Support of public education and public health; and
-- Law enforcement.

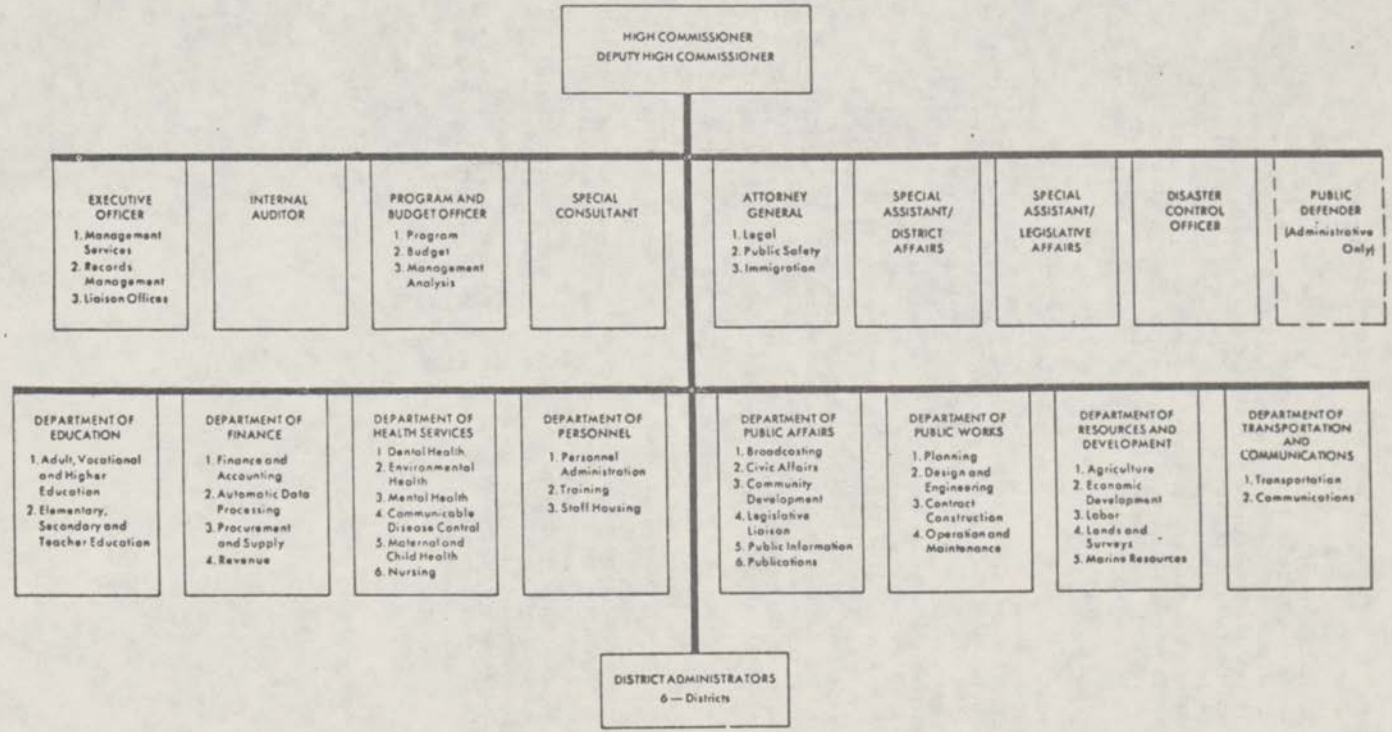
District Government

Subject to all TT-wide laws, district governments are primarily responsible for:

-- Liquor control, including collection of wholesale liquor license fees and imposition of taxes on alcoholic beverages;
-- Land law;
-- Inheritance law;
-- Domestic relations;
-- Construction and maintenance of secondary roads and docks;
-- Exclusive licensing and collecting license fees or wholesale businesses other than banking, insurance, sale of securities, and public utilities;
-- Imposition and collection of copra and sales taxes; and
-- Support of public education and public health as may be required by law.

GOVERNMENT OF THE TRUST TERRITORY OF THE PACIFIC ISLANDS

ORGANIZATION OF THE EXECUTIVE BRANCH



General executive responsibility in each of the six districts is designated in Title 3, Section 51 of the Trust Territory Code. The district administrator, the High Commissioner's principal representative, exercises general supervision over all operations, programs, and functions of the Territory within the area of his jurisdiction. He is also responsible for executing all district laws. Each district administration consists of a number of offices and departments paralleling those of the Headquarters staff. With the implementation of the decentralization policy, increased authority and responsibilities have been delegated to the district administrators.

Financing

Funds for the support of the Trust Territory Government are derived from a number of sources, chief among them being an annual appropriation provided by the Administering Authority--the United States Government. The second largest source is also from the United States in the form of program grants provided by a number of Federal agencies either on a matching fund or an outright basis to further certain Federal programs in the Trust Territory. In effect, the Trust Territory is treated as a States for participation in those Federal programs where specific authority to do so is included in the program legislation. The third largest source of funds for support of the Trust Territory Government is from tax revenues levied by the Congress of Micronesia and the District Legislatures. These revenues are controlled by the legislative bodies and are appropriated by them to provide for both their own support and for such legislative projects as may be authorized by law. A fourth source of funds is reimbursements earned by the Trust Territory Government for services provided, such as utilities and ship charters. Finally, a relatively small source of support, either in cash or services, is derived from a number of international organizations which have an interest in furthering certain programs.

This budget presentation is centered on justifying the funds requested to be provided the Trust Territory Government by the Administering Authority for Fiscal Year 1978. Also included are Budget information schedules provided on program grant funds provided by Federal agencies and tax revenues controlled by the Congress of Micronesia. A concerted effort is being made to put together all sources of fiscal support for the Trust Territory Government on a consolidated basis in order to achieve some degree of coordination in programming the use of these funds.

Trust Territory of the Pacific Islands

The FY 1978 Program

A total of $73,110,000 is required to cover necessary expenses which the Trust Territory Government will incur during Fiscal Year 1978 to administer, on behalf of the United States Government pursuant to the Trusteeship Agreement with the Security Council of the United Nations approved by the Joint Resolution of July 18, 1947 (61 Stat. 397) and Act of June 30, 1954 (68 Stat. 330), that part of the Trust Territory of the Pacific Islands which is comprised of the Caroline and the Marshall archipelagoes.

This amount is $4,843,000 more than the $68,267,000 available to the Trust Territory Government from the $79,257,000 FY 1977 appropriation for the Trust Territory of the Pacific Islands (account 14X0414). The following table indicates the composition of that increase (in thousands of dollars):

	FY 1977	FY 1978	Change Amount	Change Percent
Direct Appropriations	$1,630	$1,778	$ +148	+9.2
Grants:				
Operations	49,739	50,233	+494	+1.0
Capital Improvements	16,898	21,099	+4,201	+24.9
Total Grants	$66,637	$71,332	+4,695	+7.0
Total	$68,267	1/73,110	+4,843	+7.1
Special Programs:				
(1) Enewetak rehabilitation..	4,000 2/	8,400 2/	+4,400	+110.0
(2) Rongelap and Utirik compensation	--	1,058 3/	+1,058	+100.0
(3) Radiological Survey Northern Marshalls	2,600 4/	--	-2,600	-100.0
Total	4,600	9,458	+2,858	+62.1

1/ Does not include Trust Territory portion $6,962,000, of proposed supplemental of $7,844,000 for governmental operations.
2/ Proposed legislation and supplemental. Proposed FY 78 request.
3/ Proposed legislation and FY 78 request.
4/ Proposed supplemental existing legislation.

83-561 O - 77 - 76

Trust Territory of the Pacific Islands

Direct Appropriations

This portion of the account supports the Office of the High Commissioner, the Judiciary and the audit services provided the Trust Territory Government by the Department of the Interior Comptroller for Guam/TTPI. The increase of $186,000 requested for the Comptroller is partially offset by a decrease of $36,000 for the Judiciary and $2,000 for the Office of the High Commissioner.

Grant Operations

This portions of the account supports the major program activities of the Trust Territory Government -- health, education, transportation and communications, public affairs, resources and development, protection of persons and property, administration, public works, and development technical assistance. The increase of $494,000 proposed for FY 1978 in these program costs reflects a reduction in social program costs which are more than offset by necessary increases in costs to support an increased emphasis on economic development programs and to staff, equip, maintain and operate facilities scheduled for beneficial occupancy during the latter part of FY 1977 and during FY 1978 under the capital improvement program.

Grant Construction

The increase of $4,201,000 is requested to continue the installation of basic infrastructure facilities under the management of the U.S. Navy Office-in-Charge-of-Construction, Marianas.

Summary

The funds requested for FY 1978 will support the Trust Territory Government's efforts to administer its portion of the Trusteeship in a manner which will effectively discharge the obligations assumed by the United States Government in entering into the Trusteeship Agreement with the Security Council of the United Nations which states in Article 6 that:

".....the administering authority shall:

1. foster the development of such political institutions as are suited to the Trust Territory and shall promote the development of the inhabitants of the Trust Territory toward self-government or independence as may be appropriate to the particular circumstances of the Trust Territory and its peoples and the freely expressed wishes of the peoples concerned; and to this end shall give to the inhabitants of the Trust Territory a progressively increasing share in the administrative services in the territory; shall develop their participation in government; shall give due recognition to the customs of the inhabitants in providing a system of law for the territory; and shall take other appropriate measures toward these ends;

2. promote the economic advancement and self-sufficiency of the inhabitants, and to this end shall regulate the use of natural resources; encourage the development of fisheries, agriculture, and industries; protect the inhabitants against the loss of their lands and resources; and improve the means of transportation and communication;

3. promote the social advancement of the inhabitants, and to this end shall protect the rights and fundamental freedoms of all elements of the population without discrimination; protect the health of the inhabitants; control the traffic in arms and ammunition, opium and other dangerous drugs, and alcohol and other spirituous beverages; and institute such other regulations as may be necessary to protect the inhabitants against social abuses; and

4. promote the educational advancement of the inhabitants, and to this end shall take steps toward the establishment of a general system of elementary education; facilitate the vocational and cultural advancement of the population; and shall encourage qualified students to pursue higher education, including training on the professional level."

TRUST TERRITORY OF THE PACIFIC ISLANDS
TRUST TERRITORY GOVERNMENT

BUDGET AUTHORITY - SUMMARY BY ACTIVITIES

Activity/Sub-Activity	FY - 76 Enacted	FY - 77 Estimate	FY - 78 Estimate	Incr(+) or Dec.(-) FY 78 compared to FY - 77	Page Ref.
A. Direct Appropriations:					
1. High Commissioner's Office	$ 476,900	$ 508,000	$ 506,000	-2,000	20
2. Judiciary	300,729	862,000	826,000	-36,000	22
3. Federal Comptroller's Office	245,000	260,000	446,000	+186,000	25
Total, Direct Appropriations	$ 1,022,629	$ 1,630,000	$ 1,778,000	$+ 148,000	
B. Grants:					
4. a. Operations:					
(1) Health Services	9,968,385	8,032,600	7,735,000	-297,600	27
(2) Education	13,927,500	12,561,600	12,130,000	-431,600	31
(3) Public Affairs	1,847,892	1,716,500	2,131,000	+414,500	37
(4) Resources & Development.....	6,021,700	5,676,900	5,510,000	-166,900	42
(5) Protection of Persons & Property	3,210,500	2,527,900	2,600,000	+72,100	47
(6) Administration	6,955,794	6,079,900	5,818,000	-261,900	51
(7) Transportation & Communication	3,999,600	3,834,600	4,863,000	+1,028,400	58
(8) Public Works	11,913,000	8,929,000	8,946,000	+17,000	62
(9) Development Technical Assistance	--	380,000	500,000	+120,000	65
Total, Grant Operations ....$	57,844,371	$ 49,739,000	$ 50,233,000	$+494,000	

Activity/Sub-Activity	FY 76 Enacted	Fy 77 Enacted	FY-78 Estimate	Inc.(+) or Dec.(-) FY-78 compared to FY-77	Page Ref.
B. Grants (cont.)					
4. b. Capital Improvement Program	$25,071,000	$16,898,000	$21,099,000	$+4,201,000	82
Total Grants	82,915,371	66,637,000	71,332,000	+4,695,000	
5. Economic Development Loan Fund	1,000,000	---	---	---	
6. Northern Marianas Transition	1,500,000	---	---	---	
7. Bikini ex-gratia payments	3,000,000	---	---	---	
Sub-Total	89,438,000 1/	$68,267,000 1/ 2/	73,110,000 1/	$+4,843,000	
8. Enewetak Rehabilitation	---	---	8,400,000	+8,400,000	66
9. Rongrlap and Utirik Compensation	---	---	1,058,000	+1,058,000	68
Total Trust Territory Government	$89,438,000	$68,267,000	$82,568,000	+14,301,000	

1/ FY-76 enacted represents total Trust Territory funding including Northern Mariana Islands. FY 77 and FY-78 represents Trust Territory Government funding only. Government of the Northern Mariana Islands funding request is presented separately.

2/ Does not include proposed supplementals for Trust Territory Government portion, $6,962,000, of $7,844,000 for governmental operations; $4,000,000 supplemental for Enewetak rehabilitation, and $2,600,000 for support of a radiological survey of the Northern Marshall Islands.

Trust Territory of the Pacific Islands

A. DIRECT APPROPRIATION

1. Office of the High Commissioner: Fiscal Year 1977, $508,000; Fiscal Year 1978, $506,000; decrease $-2,000.

Amount	Positions	Total Program	Total Positions	Explanation
$-2,000	---	$506,000	11 U.S. 6 Micro	Increases in personnel costs due to step increases and related personnel benefits costs are offset by equivalent reductions in other support costs.
$-2,000	---	$506,000	11 U.S. 6 Micro	

Program Description

The Office of the High Commissioner consists of his immediate office and the Offices of the: Deputy High Commissioner; Special Consultant; Special Assistants for Legislative and for District Affairs; and Executive Officer.

Appointed by the President of the United States, subject to confirmation by the United States Senate, the High Commissioner is responsible to the Secretary of the Interior through the Director, Office of Territorial Affairs, for providing executive direction and administrative control of the Trust Territory Government so as to meet the obligations assumed by the United States Government in providing for the administration of the Caroline and Marshall archipelagoes portion of the Trust Territory of the Pacific Islands under the terms of the Trusteeship Agreement entered into with the Security Council of the United Nations.

To assist him in providing for the effective and economical administration of the Trust Territory Government, the High Commissioner meets weekly with his Cabinet which is comprised of the Deputy High Commissioner, the Special Consultant, the Special Assistants for Legislative and for District Affairs, the Executive Officer, the Attorney General, the Program and Budget Officer, the Territorial Planner, and the Directors of Health, Education, Public Affairs, Resources and Development, Transportation and Communications, Public

Works, Finance and Personnel. He also confers weekly, by radio-telephone conference call, with the six District Administrators of the Trust Territory. In addition, he travels frequently in the districts and maintains close contacts with the traditional leaders in the Districts. At the opening of each session of the Congress of Micronesia, he delivers an address on the State of the Trust Territory Government. He also represents the Administering Authority at annual sessions of the Trusteeship Council of the United Nations, and he appears regularly before Committees of the United States Congress on matters concerning the Trust Territory Government.

2. Judiciary: Fiscal Year 1977 $862,000; Fiscal Year 1978 $826,000; a decrease of $36,000. The decrease consists of:

Amount	Positions	Total Program	Total Positions	Explanation
$-36,000	-8	$826,000	7 U.S. 46 Micro	Within grade increase costs will be offset by the transfer of functions to the Northern Marianas Government once covenant funding provisions are met. This will necessitate transferring eight positions sometime in FY 78.
$-36,000	-8	$826,000	7 U.S. 46 Micro	

Program Changes

While there is no significant change in the FY 1978 program of the Trust Territory of the Pacific Islands Judiciary Branch which serves both the Trust Territory and the Northern Mariana Islands Governments, a significant change in funding the Judiciary Branch is proposed to eliminate the fund management problems engendered by funding the High Court in the "direct" and the lower courts in the "grant-operations" portions of the Trust Territory of the Pacific Islands appropriation. Funding for the entire Judiciary is proposed to be carried in the "direct" portion of the appropriation. Another significant change in the funding of the Judiciary is the transfer of support for the Northern Mariana Islands local courts, including 8 positions, from the Trust Territory Government budget to the Northern Mariana Islands Government budget sometime in FY 1978.

Program Description

The Judiciary system of the Trust Territory consists of three levels of courts based on territorial jurisdiction: the High Court, whose jurisdiction extends to the whole of the Trust Territory; District Courts, whose jurisdiction is limited to the administrative district for which each such court is constituted; and Community Courts, whose jurisdiction is limited to the municipality or community for which each such court is constituted. While the High Court has been funded from the "direct" portion of the Trust Territory appropriation and the District and Community Courts have been funded from the grant-operations portion as "Local Judiciary" under the "Protection of Persons and Property" program, funds justified for the High

Court were used in part to train and assist personnel associated with the District and Community Courts and, conversely, funds justified for the latter courts were used in part to support High Court operational costs. This necessary commingling of the Judiciary's total funds has presented certain practical problems in the administration of these funds which would be eliminated if all funds came from a single source.

The High Court has Trial and Appellate Divisions. The Trial Division has original jurisdiction to try all cases, civil and criminal, including probate, admiralty, and maritime matters, and the adjudication of title to land or any interest therein. The Appellate Division has jurisdiction to review, on appeal, the decisions of the Trial Division in the following instances:

1. All cases tried originally in the High Court.

2. Cases decided by the High Court on appeal from the District Court.

3. All cases decided by the High Court on review of the record of a District or Community Court decision in which the High Court has reversed or modified the decision so as to affect the substantial rights of the appellant.

Under the general supervision of the Chief Justice, the High Court is staffed with three Associate Justices, and nine administrative and court reporter/secretarial personnel. Judges of the District and Island Court of Guam, who are appointed by the Secretary of the Interior serve as temporary judges of the High Court, but hear Trust Territory cases only by special assignments by the Chief Justice of the Trust Territory.

The basic function of the High Court Justices is the hearing and determination of litigation in the courts. Presently, the three Associate Justices are stationed in the Marshalls, Yap and Palau Districts. The Chief Justice is stationed at the Judiciary headquarters in Saipan, Mariana Islands.

Cases in the Trial Division of the High Court are heard by the four High Court Justices on a circuit-riding basis at six district centers, and with a fair degree of regularity at three of the sub-centers, in addition to sittings at outlying islands when the need arises. Sessions of the High Court are continuous in the districts where a High Court Justice is stationed when the judge is in residence.

Another essential function of the High Court is the supervision and training of the Micronesian personnel in the lower courts. The High Court Justices, the Director and the Deputy Director also supervise the work of, and train the District and Community Court Judges, the Clerks of Court and their assistants, Probation Officers, and other Micronesian employees of the courts, who have had either very little or no legal training prior to their appointments.

Trust Territory Courts

Cases Disposed of Per Year

	High Court Appellate Division		High Court Trial Division		District Court		Community Court	
	Criminal	Civil	Criminal	Civil	Criminal	Civil	Criminal	Civil
1965	6	5	46	125	1,463	1,035	710	1,739
1966	1	2	41	89	1,509	853	1,150	2,546
1967	-	1	44	175	1,736	1,406	934	2,456
1968	1	3	54	251	2,545	1,273	1,388	2,589
1969	3	11	67	193	2,988	1,365	1,282	2,403
1970	3	12	73	153	3,016	1,236	1,450	2,636
1971	1	16	110	756	3,821	1,286	1,092	1,355
1972	2	3	124	218	3,354	1,185	1,219	2,591
1973	4	5	86	243	5,270	1,341	1,220	2,692
1974	4	17	106	280	4,299	1,679	1,349	2,416
1975	7	28	288	555	4,545	1,878	1,735	1,781
1976*	4	16	80	343	2,653	1,046	1,067	791

Total cases disposed each year in all courts:

1965	5,219
1966	6,191
1967	6,752
1968	8,104
1969	8,312
1970	8,579
1971	8,437
1972	8,696
1973	10,861
1974	10,150
1975	10,817
1976*	5,209

* First six months (through June 30) only.

Trust Territory of the Pacific Islands

3. Federal Comptroller's Office: Fiscal Year 1977, $260,000; Fiscal Year 1978, $446,000 an increase of $186,000. The increase consists of:

Amount	Positions	Total Program	Total Positions	Explanation
$+186,000	+5 GS	$446,000	12 GS	Expansion of audit activities costs for travel to the districts, supplies, and other services.
$+186,000	---	$446,000	12 GS	

Program Changes

There are no Trust Territory employees involved in this essentially external audit activity. All costs borne by the Federal Comptroller in meeting his Trust Territory Government audit responsibilities are initially charged to his office and reimbursed by the Trust Territory Government, from the funds herein requested, on the basis of billings he submits for services performed. Positions shown here are not included in the Trust Territory ceiling. They are included in the Administration of Territories Account as reimbursable positions. They are shown here to indicate the program effort estimated by the Comptroller to adequately cover his expanded audit activities. FY 76 was the first full year of audit operations provided by the Comptroller in the Trust Territory. The FY 1977 request was based on previous estimated FY 1976 program. As it turned out these estimates both in funding and positions were understated based on actual FY 76 requirements. They increase for FY 78 now represents a realistic estimate of funding and auditors needed to accomplish a basic mission of audit activities including follow up. It is anticipated that this level will be sufficient, for future years except for minor funding adjustments for pay and travel.

Program Description

Public Law 93-111 enacted September 21, 1973, extended the audit responsibilities of the Federal Comptroller for Guam to include the Trust Territory of the Pacific Islands. Pursuant to this assignment, the Federal Comptroller (a component of the Office of Territorial Affairs, Department of the Interior), reported on his first annual audit of the Trust Territory Government, covering Fiscal Year 1974, on February 28, 1975. He also conducts management audits on his own initiative and special audits at the request of the High Commissioner.

Trust Territory of the Pacific Islands

The audit activities of the Federal Comptroller are directed so as to:

(1) improve the efficiency and economy of Trust Territory Government programs, and

(2) ensure that Federal funds provided for the support of that government are properly accounted for and that full disclosure is made of the use of such funds in accordance with Federal fund reporting requirements.

Trust Territory of the Pacific Islands

B. Grants

4. (a) Operations

(1) Health Services: Fiscal Year 1977, $8,032,600; Fiscal Year 1978, $7,735,000 a decrease of $297,600. The decrease consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$ -44,700	---	$ 320,300	18	Administration -- net decrease -- within grade increases more than offset by reduction in travel and other support costs.
(ii)	+21,300	-4	4,505,900	795	Hospital and dispensary services -- net increase to cover costs of within grade increases partially offset by reduction of 4 positions and other support costs.
(iii)	-21,400	---	900,900	3	Patient referrals -- reduction of referrals in anticipation of upgraded local care.
(iv)	-5,700	-5	218,800	35	Environmental health and sanitation -- net decrease due to elimination of 5 positions no longer needed.
(v)	+22,700	-1	543,200	65	Dental services -- within grade increases partially offset by elimination of 1 position.
(vi)	-269,800	---	1,245,900	---	Medical supplies and equipment -- decrease in funding in anticipation of increased reimbursement due to introduction of a new fee schedule and improved collection methods.
	$-297,600	-10	$7,735,000	916	

In neither FY 1977 nor FY 1978 is there any significant change in program content from the FY 1976 level except for normal within grade increases more than offset by the elimination of 10 positions and reduction in travel and other support costs.

Program Description

The Health Services Program is designed to improve health; environmental and sanitary conditions in the Trust Territory; to minimize the incidence of communicable disease, gradually improve standards of health services provided; encourage scientific investigations into conditions affecting the health of the population; provide paramedical and auxiliary services such as nutrition and preventive health care education; and to provide and operate health care facilities needed to meet the health care requirements of the growing population of the Trust Territory.

Health Services Funding

	Program	FY 1977 Estimate	FY 1978 Estimate	Change
(i)	Administration	$ 365,000	$ 320,300	$ -44,700
(ii)	Hospital and Dispensary Services	4,484,600	4,505,900	+ 21,300
(iii)	Patient Referrals	922,300	900,900	-21,400
(iv)	Environmental Health and Sanitation	224,500	218,800	- 5,700
(v)	Dental Services	520,500	543,200	+22,700
(vi)	Medical Supplies and Equipment	1,515,700	1,245,900	-269,800
	Total	$8,032,600	7,735,000	$-297,600

(i) Administration, $-44,700; total $320,300.

The Director of Health Services is directly responsible to the High Commissioner of the Trust Territory for the executive direction, administrative control and technical supervision of the Territorial Health Services Program. He is assisted in meeting this responsibility by a team of health care specialists with public health backgrounds who are skilled in all facets of providing the citizens of the Trust Territory with a total health care delivery system. The

Trust Territory Health Council, established pursuant to U.S. Public Law 89-749, Section 314la, assists the Director of Health Services in reviewing public health conditions and programs with regard to the feasibility, applicability, and priority of the programs according to local needs.

(ii) Hospital and Dispensary Services, $+21,300 total $4,505,900.

This activity is the heart of the Health Services program. The funds requested are required to support the provision of health services throughout the Trust Territory in hospitals located in each district center and a growing number of dispensaries located in populated areas on outer islands. Older deteriorating facilities are gradually being replaced by modern, well-staffed, equipped and supplied facilities as funds are provided for their construction under the Capital Improvement Program and work on them progresses to anxiously-awaited completion. As the number of these facilities increase and improved health care can be provided within the Trust Territory, the number of patients who must be referred for treatment in medical facilities outside the Trust Territory should be significantly reduced.

(iii) Patient Referrals, $-21,400; total $900,900.

In cases where patients require medical services which cannot be provided by Trust Territory medical personnel and facilities, treatment is authorized to be provided in the closest U.S. military or other hospitals outside the Trust Territory where the required treatment can be provided. Until the beginning of FY 1976, the U.S. Department of Defense authorized the treatment of patients referred from Trust Territory medical facilities at the special rate of $66.00 per day instead of the established $126.00 rate per day. At the beginning of FY 1976, this special rate was cancelled and the Trust Territory is now paying established standard rates. An attempt is being made to upgrade local medical facilities in order to reduce referral cases.

(iv) Environmental Health and Sanitation, $-5,700; total $218,800

The major effort in this activity is the development and maintenance of a Trust Territory comprehensive environmental health program designed to prevent disease attributable to unsanitary or polluted conditions. Such conditions are sought out, and where sources can

be identified, efforts are concentrated on their elimination and the prevention of their recurrence. Environmental protection standards established by the Trust Territory Environmental Protection Board provide guidelines for the surveillance and improvements of unsanitary or polluted conditions.

(v) Dental Services, $+22,700; total $543,200.

These funds are required to provide for the treatment of dental patients and to support the dental health education program in which primary emphasis is placed on preventing the incidence of dental disease by providing preventative dental care and publicizing measures for promoting dental health. Particular attention is given to encouraging individuals seen in maternal and child health care clinics to participate in the dental care program.

(vi) Medical Supplies and Equipment, $-269,800; total $1,245,900.

This second largest cost activity in the Health Services program provides for the procurement and distribution to Trust Territory medical and dental facilities the supplies and equipment needed for the provision of required treatment and services. With the increasing population in the Trust Territory and the growing number of health care facilities, the supply and equipment requirements are growing proportionately. Along with the increased requirements, prices for such supplies and equipment along with mounting freight costs to get these materials to the Trust Territory and distributed to the widely scattered facilities in which they are needed, have just about doubled this cost in the past two years. A concerted effort is being undertaken to examine the situation and seek a reasonable means of reducing, or at least halting further growth in, these costs without jeopardizing the provision of necessary health care services. It is anticipated that at the beginning of FY 1977, a new fee schedule and improved collection method will be initiated to increase reimbursements to help offset the cost of health care.

(2) Education: Fiscal Year 1977, $12,561,000; Fiscal Year 1978, $12,130,000; an decrease of $431,600. The decrease consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$ -87,800	-7	$1,084,000	129	Administration -- within grade increases more than offset by elimination of 7 positions and reduction in travel and other support costs.
(ii)	+154,100	+5	6,038,900	1,216	Elementary schools -- within grade increases, as above, plus establishment of 5 new positions required to staff and operate elementary schools and procurement of additional supplies and equipment needed for expanding enrollment in existing schools.
(iii)	-325,800	+11	2,899,600	419	Reduction in new equip. requirements more than offsets increased personnel and supply costs due to increased enrollment.
(iv)	-53,900	---	647,500	8	Student Assistance Program -- within grade increases, as above, more than offset by reduction in travel and other support costs.
(v)	-57,400	-20	725,000	99	Micronesian Occupational Center-- within grade increases, as above, more than offset by elimination of 20 positions and reduction in travel and other support costs.
(vi)	-31,300	-6	387,500	40	Community College of Micronesia -- same explanation as for the Occupational Center, above, except that 6 positions are eliminated.
(vii)	-14,600	-3	165,000	11	Trust Territory School of Nursing -- same explanation as for the Occupational Center, above, except that 3 positions are eliminated.
(viii)	-14,900	---	182,500	---	Aid to non-public schools -- reduced aid to non-public schools.
	$-431,600	-20	$12,130,000	1,922	

In neither FY 1977 nor FY 1978 is there any significant change in program content from the FY 1976 level. Rather, the requested net decrease in personnel and funding is attributable largely to the need to expand the educational system due to the increasing number of school-age children in the growing population of the Trust Territory. The provision of educational opportunities for all segments of the population is one of the basic obligations assumed by the United States Government under the Trusteeship Agreement. These increases are partially offset by elimination of other non-teaching type positions no longer required.

Program Description

The Education program is designed to provide the citizens of the Trust Territory with a total education system ranging from preschool, elementary, secondary through higher, continuing and adult education. The system provides for vocational as well as academic education and stresses education for constructive social attitudes in a developing economy.

Education Funding

	Program	FY 1977 Estimate	FY 1978 Estimate	Change
(i)	Administration	$1,171,800	$1,084,000	-87,800
(ii)	Elementary Schools	5,884,800	6,038,900	+154,100
(iii)	Secondary Schools	3,225,400	2,899,600	-325,800
(iv)	Student Assistance Program	701,400	647,500	-53,900
(v)	Micronesian Occupational Center	782,400	725,000	-57,400
(vi)	Community College of Micronesia	418,800	387,500	-31,300
(vii)	Trust Territory School of Nursing	179,600	165,000	-14,600
(viii)	Aid to Non-Public Schools	197,400	182,500	-14,900
	Total	$12,561,600	$12,130,000	-431,600

Trust Territory of the Pacific Islands

(i) Administration, $-87,800 total $1,084,000.

The Director of Education is directly responsible to the High Commissioner of the Trust Territory for the executive direction, administrative control and technical supervision of the Territory Education Program. He is assisted in meeting this responsibility by a team of education specialists (located at Headquarters and in each district) with public education backgrounds who are skilled in all facets of providing the citizens of the Trust Territory with a total education system from preschool, through elementary, secondary, higher and continuing, to adult education providing along with academic studies both vocational instruction as well as education for constructive social attitudes to enable Trust Territory citizens to participate fully in the development of Micronesia. The Trust Territory Board of Education, of which the Director of Education is the Executive Officer, has broad advisory powers in defining educational objectives and policies to guide the development of the Trust Territory educational system. A Board of Education has been established in each of the six districts of the Territory; their functions parallel in their districts the work of the Trust Territory Board of Education.

(ii) Elementary Schools, $+154,100 total $6,038,900.

The public elementary school program provides eight years of schooling for the children of Micronesia in a system planned to consist of 1,068 elementary classrooms in 213 schools with an estimated enrollment of 28,000 by FY 1978. Education is compulsory for children of ages 6 through 14 or until the completion of the elementary program. Class sizes vary especially in small schools located on isolated islands. In many of the smaller schools, three or four grades are combined in one class. Due to sociological and geographical conditions it is impractical to consolidate these schools. The curriculum design and development includes language arts, mathematics, social studies, science and health, homemaking, and vocational subjects.

A major effort for improvement in teaching capability is being made by restricting new teacher employment to high school graduates. Upgrading is being done by conducting intensive inservice training programs within each district, redesigning projects to support teacher training programs in each district, developing standardized approaches for curriculum design for Micronesia, shifting and redesigning organizational structures, starting programs to strengthen the supervisory and administrative support throughout Micronesia,

and more effective recruitment. Additionally, special training programs at the East-West Center in Hawaii for Micronesian administrators and supervisors will be continued.

The development and adoption of curriculum materials that are culturally and geographically oriented to Micronesia has increased to the point where districts can expect prototype copies of curriculum materials for use in five grades of science and five grades of mathematics. Three years of bilingual/vernacular reading materials specifically developed for Micronesia are now available.

(iii) Secondary Schools, $-325,800 total $2,889,600.

The public secondary school program normally provides four years of schooling in grades nine through twelve, though there is an emerging pattern of Junior High School and Post-Elementary Schools in at least two districts: Yap and Truk. An estimated enrollment of 5,500 in grades 9-12 is expected in FY 1978. In the three eastern districts, the lack of either dormitory and/or instructional facilities make it necessary to limit enrollment on a selective basis. During FY 1978, limitations on enrollment will continue in spite of accelerated facility construction. Some of the public secondary schools provide dormitory accommodations, and the percentage of dormitory students ranges from 9% to approximately 80% for those schools located in district centers and is about 82% at the Outer Islands High School in Yap District. The secondary schools that do not have dormitory facilities are on Yap and Kusaie where students are bused. In other districts significant numbers of students also come to the district centers and live in private homes while going to school.

The instructional program in the secondary schools has been largely one of general education, but is being reevaluated for making changes which will meet Micronesian values and needs. It presently includes communications skills, arithmetic and basic mathematics, social studies, and physical and biological science at the introductory levels. In these general high schools, agriculture, industrial education, carpentry, boat and auto mechanics, electricity, drafting, homemaking, business (general business, typing, bookkeeping, business arithmetic, office practice) and physical education are included to a greater or lesser extent, dependent upon the availability of instructional staff and plant facilities at any one school. The achievement level of students is not equivalent to that found in the average secondary school in the United States, and generally ranges from three to five years below achievement levels based on U.S. standardized tests.

(iv) Student Assistance Program, $-53,900; total $647,500.

The former scholarship program has been drastically revised to provide for assistance to a greatly increased number of students. The program provides for both full and partial assistance to over 2,000 students engaged in higher education outside the Territory. Services of financial packaging with Federal and Congress of Micronesia funds have been established. Additionally, the program coordinates such training programs and educational opportunities as are provided by the Presidential Classroom, American Field Services, Exploration Scholarship, East-West Center and other training programs that are available. By reducing the amounts of grants to each student, we will increase the numbers of students served from 900 in 1976 to 1,700 in FY 1978.

(v) Micronesian Occupational Center, $-57,400; total $725,000.

The program of vocational education offered at the school is divided into (19) courses of study which include: agricultural science, business education, automotive mechanics, construction carpentry, dental nursing, electrical technology, food services, industrialized clothing and design training, masonry, plumbing, and small engine and outboard marine technology plus eight other areas. It is anticipated that 357 students will be enrolled in FY 1977. The capacity of the school is now 450 students and our program is geared to serve this number in FY 1978.

The Department of Education continues to place a strong emphasis on training and upgrading Micronesians to meet the challenges of Micronesia for today and for the future. In keeping with that emphasis, Micronesian Occupational Center is entrusted to develop a viable work force in the Trust Territory and coordinate its programs with Economic Development activities to ensure that its graduates are placed in positions for which they are capable, either in the private sector or in governmental agencies.

(vi) Community College of Micronesia, $-31,300; total $387,500.

The Community College program is presently aimed at inservice elementary teacher education, special education teacher training, preprofessional preparatory training in intensive English language, mathematics, science and study skills; small business administration, and development of a vocational courses in tourism management and marine resources operation. The program is now in the final stages

of accreditation evaluation. 147 students in the Ponape campus were served in FY 1977 in addition to 1,300 extension students throughout the various districts. At present the college offers an AS degree in five major areas.

(vii) Trust Territory School of Nursing, $-14,600; total $165,000.

This School provides nursing education and training to scholarship recipients, a 27-month course of study in both Clinical and Public Health Nursing leading to an Associate in Science Degree from the University of Guam.

Students are provided with transportation to and from their respective districts, school uniforms, books, room and board, graduation uniform, diplomas from Trust Territory School of Nursing and from the University of Guam. The students are also provided a stipend to cover personal and hygienic necessities. Enrollment is estimated to be 34 in FY 1978.

(viii) Aid to Non-Public Schools, $-14,900; total $182,500.

This program was created under Congress of Micronesia Public Law 3-36 which requires the Trust Territory to provide non-public school pupils with benefits equal to those provided to public school students in the areas of transportation, textbooks, accident insurance, testing, medical nursing services, supplies and apparatus, and feeding programs.

The Trust Territory has 17 non-public elementary schools with an estimated enrollment of 2,700 students and 14 non-public junior and senior high schools with an estimated enrollment of 1,800.

The ratio of costs per elementary pupil to cost per secondary pupil in public schools is approximately one to three. This same ratio is used in allocating funds to non-public schools; for every $1 given to elementary pupils, $3 is given for secondary pupils. The individual schools use the funds for the purposes outlined above.

There are no staff members paid from these funds.

(3) Public Affairs: Fiscal Year 1977, $1,716,500; Fiscal Year 1978, $2,131,000; an increase of $760,500. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$ +9,300	-1	$ 192,900	27	Administration -- within grade increases plus procurement of office equipment partially offset by elimination of 1 position.
(ii)	-7,200	-1	142,500	13	Public Information -- within grade increases, as above, partially offset by the elimination of 1 position.
(iii)	-32,300	---	274,100	60	Broadcasting -- within grade increases, as above, more than offset by reduction in travel and other support costs.
(iv)	-8,400	+1	224,900	19	Civic Affairs -- within grade increases, as above, plus 1 new position more than offset by reduction in travel and other non-recurring costs.
(v)	+7,800	---	130,900	16	Legislative Affairs -- within grade increases, as above.
(vi)	-6,700	---	209,100	25	Community Development -- same explanation as Broadcasting, above.
(vii)	-11,200	-4	151,600	2	Grant-in-Aid -- within grade increases, as above, more than offset by elimination of 4 positions.
(viii)	+463,200		805,000	---	Civic Action Team Support -- required to support three teams for Truk, Kusaie, and Yap at an average cost of $270,000 per team.
	$+414,500	-5	$2,131,000	162	

In neither FY 1977 nor FY 1978 is there any significant change in program content from the FY 1976 level except for normal within grade increases and the transfer of the Civic Action Team Support program from Capital Improvement Program to Operations (no positions funded in this program). Rather, the increase due to the transfer of Civic Action Teams is partially offset by the elimination of 5 positions no longer needed.

Program Description

The varied activities in the Public Affairs program have the common purpose of providing the citizens of the Trust Territory with informational services, assistance and guidance intended to enhance their self reliance and develop their potential for understanding and participation in the affairs of their government under the Trusteeship in order to prepare themselves for effective self-government when the Trusteeship is terminated.

Public Affairs Funding

	Program	FY 1977 Estimate	FY 1978 Estimate	Change
(i)	Administration	$ 183,600	192,900	+ 9,300
(ii)	Public Information	149,700	142,500	-7,200
(iii)	Broadcasting	306,400	274,100	-32,300
(iv)	Civic Affairs	233,300	224,900	-8,400
(v)	Legislative Affairs	123,100	130,900	+7,800
(vi)	Community Development	215,800	209,100	-6,700
(vii)	Grant-in-Aid	162,800	151,600	-11,200
(viii)	Civic Action Team Support	341,800	805,000	+463,200
	Total	$1,716,500	$2,131,000	$+414,500

(i) Administration, $+9,300; total $192,900.

The Director of Public Affairs is directly responsible to the High Commissioner of the Trust Territory for the executive direction, administrative control and technical supervision of the Territorial Public Affairs Program. He is assisted in meeting this responsibility by a team of public affairs specialists who are skilled in all facets

of assisting the citizens of the Trust Territory to cope with the changing nature of their society, the political changes in their governance under the Trusteeship, and to develop their potential for responding to these changes in ways which will best serve them to capably manage their own affairs on termination of the Trusteeship no matter what form of government they choose to replace the Trust Territory Government.

(ii) Public Information, $-7,200; total $142,500.

There are three primary public information functions supported by the funds requested for this activity: (1) operation of the Micronesian News Service by which reports on Trust Territory news events are distributed for broadcast over the district radio stations and publication in district newspapers; (2) preparation and distribution of information on Micronesia in general and the Trust Territory Government in particular to persons, and organizations outside the Trust Territory, and to other governments, who request such information; and (3) the publication and distribution of brochures, handbooks and periodic reports such as the annual reports to the United Nations and to the Secretary of the Interior. As greater international interest in events in the Trust Territory appears to be developing, public and press relations is becoming an increasingly important activity.

(iii) Broadcasting, $-32,300; total $274,100.

This activity supports the operation and maintenance of the five district general broadcasting stations which are on the air for about 18 hours every day providing the citizens and residents of the Trust Territory with news, entertainment, and general information and educational programs. These stations also provide a direct communication link between district centers and outlying villages and islands which have no other means of communication, bringing information vital to the preservation of life and property at times when there is danger from threatening weather or other potential disaster conditions.

(iv) Civic Affairs, $-8,400; total $224,900.

On the premise that their understanding of, and participation in, the affairs of their present government at the territorial, district and municipal levels will better enable the citizens of the Trust Territory to choose the form of self-government they want to succeed the present government when the Trusteeship is terminated and prepare themselves to operate that government, the funds requested under this heading are required for preparing discussion materials for political education conferences and workshops, leading such group gatherings and generally encouraging the development of the average citizen's potential to contribute meaningfully to the dialogue on the future political status of Micronesia.

(v) Legislative Affairs, $+7,800; total $130,900.

The principal function supported by this activity is the maintenance of liaison between the Executive and Legislative Branches of the Trust Territory Government to ensure the clearance and general coordination of legislative proposals and enactments at both the territorial and the district levels of the government. Provision is made for the drafting and clearance within the Executive Branch of legislative proposals to be presented for the consideration of the Congress of Micronesia or the Legislatures in each District and the coordination and presentation of Executive Branch commentary on bills initiated within the Legislative Branch. Legislative proposals enacted into law are reviewed and components of the Executive Branch which have the responsibility for ensuring that the provisions of the law are observed and are advised to take appropriate actions. The District Legislative Affairs Offices are also responsible for participation in conducting elections for seats in the Municipal Councils, District Legislatures and the Congress of Micronesia.

(vi) Community Development, $-6,700; total $209,100.

These funds provide support for the coordination of several vital social program services with the main task essentially being institution building and of channeling latent civic energies of Trust Territory citizens toward self-improvement and successful utilization of new ideas and resources. This includes not only providing and/or coordinating technical advice for self-help activities, but also community education broadcasting, traveling home-project demonstration teams, a delinquency prevention program and services to the elderly as well as to youth and special interest groups.

(vii) Grant-in-Aid, $-11,200; total $151,600.

An extension of the community development activity, the grant-in-aid activity provides financial support and technical assistance to communities in planning and executing community projects where the capacity to build, operate and maintain needed public facilities or services exists but where local cash resources are inadequate to cover the whole cost of such projects. Apart from producing a tangible facility such as a community hall, or a useful service such as a ferry to a neighboring island, the successful completion of such community projects serves to create and foster the development of community capability to plan and implement self-help projects and provides a source of local pride for the fruits of such efforts.

(viii) Civic Action Team Support, ~~$+463,200~~; total $805,000.

The teams are self-contained units which bring their own equipment to project sites. The teams are equipped to build small bridges and community roads on the islands. The provision of equipment is of high value in the Trust Territory where heavy construction machinery is in such short supply.

The teams perform a second vital service through the recruitment of residents to participate in projects. Through on-the-job training, local people gain valuable experience in construction methods and the use of equipment. The total cost of a Civic Action Team is about four times the Trust Territory's share of $270,000 average per team, the major cost being borne by the U.S. military. The funds requested in FY 1978 are adequate to support three teams, one for Truk, one for Yap and one for a newly formed district Kusaie.

(4) Resources and Development: Fiscal Year 1977, $5,676,900; Fiscal Year 1978, $5,510,000;; an decrease of $166,900. The decrease consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$ + 9,000	---	$ 150,600	10	Administration -- normal within grade increases plus other support costs partially offset by reduction in travel costs.
(ii)	+541,200	---	1,935,600	211	Agriculture -- within grade increases, as above, plus expansion of agricultural programs to meet increased production goals based on UNDP recommendations.
(iii)	+ 6,700	---	501,600	45	Economic Development -- normal within grade increases, as above.
(iv)	-841,000	-7	1,090,100	149	Lands and Surveys -- normal within grade increases, as above, more than offset by elimination of 7 positions and completion of a major land survey and mapping contract in FY 1977.
(v)	-20,600	+3	896,100	85	Marine resources -- normal within grade increases, as above, plus three new positions more than offset by reduction in travel and other non-recurring costs.
(vi)	+ 117,600	-22	786,200	186	Land Commissions -- normal within grade increases, as above, plus increase in contractual services necessary to complete the program, partially offset by elimination of 22 positions.
(vii)	+ 20,200	---	149,800	19	Labor -- normal within grade increases, as above, plus funds required to develop labor information program for Micronesia.
	$ -166,900	-26	5,510,000	705	

Trust Territory of the Pacific Islands

In FY 1977 and FY 1978 there is a significant change in the program content from the FY 1976 level. Based on the UNDP recommendations an attempt is being made to reorient Resources and Development programs from mostly research and experimental programs to more of income-producing type of programs to better prepare Micronesia for self-government when the Trusteeship is terminated. To accomplish this goal, an attempt is being made to reduce funding in the area of social services and shift the funds to developmental programs.

Program Description

The Resources and Development program is designed to assist the citizens of the Trust Territory to develop the Territory's economic resources so that its subsistence aspects become supplementary to a basic money economy which will be able to support the increasing needs of the growing population and self-government when the Trusteeship is terminated.

Resources and Development Funding

	Program	FY 1977 Estimate	FY 1978 Estimate	Change
(i)	Administration	$ 141,600	$ 150,600	$ +9,000
(ii)	Agriculture	1,394,400	1,935,600	+541,200
(iii)	Economic Development	494,900	501,600	+ 6,700
(iv)	Lands and Surveys	1,931,100	$ 1,090,100	-841,000
(v)	Marine Resources	916,700	896,100	-20,600
(vi)	Land Commissions	668,600	786,200	+117,600
(vii)	Labor	129,600	149,800	+20,200
	Total	$5,676,900	$5,510,000	$-166,900

(i) Administration, +9,000 total $150,600.

The Director of Resources and Development is directly responsible to the High Commissioner of the Trust Territory for the executive direction, administrative control and technical supervision of the Trust Territory Government Resources and Development Program. He is assisted in meeting this responsibility by a team of specialists and technical advisors who coordinate programs in business development and tourism; administer copra purchasing agreements and assist in the development of local cooperations, credit unions, small business and other commercial activities; and assist in the development and management of land, marine and agricultural resources.

(ii) Agriculture, ~~$+~~541,200 total $1,935,600.

This activity supports the development of commercial agricultural production so that subsistence farming is supplemented first, to reduce the need for agricultural imports and second, to provide a source of income from the export of products excess to local requirements. Of the somewhat more than 336,400 acres of land area which comprises the area of the Trust Territory under Trust Territory Government jurisdiction, about 11,600 acres are under cultivation largely for subsistence farming. About 70,000 acres are planted with tree crops -- primarily, coconut, breadfruit and pandanas. Forest land, pasture land and savannahs amount to about 266,000 acres. The remaining acreage is largely mountainous or low-lying land unsuitable for agricultural purposes. Based on UNDP recommendations, the Agriculture program is shifting from just an experimental program to a production type program with emphasis on fruits, vegetables, livestock, poultry, swine and cattle production.

(iii) Economic Development, ~~$+~~6,700 total $501,600.

Funds requested to support economic development are used to (1) provide necessary management and business advisory services to the Micronesian business community, including specialized assistance in the preparation of marketing and investment studies; (2) promote and assist in the development of tourism and related service enterprises; (3) provide administrative and technical support to promote private enterprises; and (4) support the District Economic Development Boards in the analysis of business permit applications and monitoring the activities of foreign investors in enterprises operating in the Trust Territory Government portion of the Trust Territory. Evidence of success in these endeavors is seen in the continuing growth of new business starts, tourism, foreign investment and other indicators of a strengthening private economy in the Trust Territory. Preliminary data for FY 1976 indicates direct income from tourism to have been in excess of $1 million.

(iv) Lands and Surveys, $-841,000; total $1,090,100.

The lands and surveys mapping activity, accelerated in FY's 1974 and 1975 in conjunction with the return of public lands to district control, is now expected to be completed during FY 1977. The funds requested also support the real property management program which provides for: (1) coordinating the acquisition of private lands for public use and benefit and the homesteading and/or leasing of public

lands; (2) investigating property damage claims; (3) reviewing non-citizen leases of land; and (4) the determination of land values. Examination and analysis of data available from the ongoing surveying and mapping effort indicates that the land area of the Trust Territory under the Trust Territory Government jurisdiction above the mapped water line amounts to 525.6 square miles or 336.4 thousand acres.

(v) Marine Resources, $-20,600; total $896,100.

The funds are required to support the development of the harvesting of the marine flora and fauna in Trust Territory waters for both local use and export while, at the same time, conserving those resources and protecting them from incursions by natural predators and foreign intruders in these waters. The Mariculture Demonstration Center in the Palau District is now in the process of developing programs in oyster, shrimp and rabbitfish farming which will provide a means for introducing commercial mariculture production in the Trust Territory in areas which are suitable for such farming. Particular efforts are being made to promote the development of commercial tuna fishing by Micronesian fishermen.

(vi) Land Commissions, $+117,600; total $786,200.

These Commissions were established pursuant to Title 67 Trust Territory Code 101-103 to provide a systematic and geographical approach to the investigation and determination of the ownership of all land in the Trust Territory. The Commissions, or land courts, are in operation in all but the Marshalls District which has asked to delay the establishment of a land commission for a few years. Land registration teams, comprised of five or more citizens who have resided for at least ten years in a given municipality, investigate claims of land ownership in the area and report their findings to the Commissions which then mades a determination of ownership which is final if not appealed within 120 days after the determination notice is posted. Appeals are adjudicated by the High Court and its decisions are final. The land registration program is proceeding on a schedule in which it is planned that most of the lands in and near the district centers will be registered by the end of FY 1977.

(vii) Labor, $+20,200 ; total $149,800.

The principal task performed under this heading is administration of the Protection of Resident Workers Act, Title 49 of the Trust Territory Code, which has been in effect since January 1, 1970. This involves the regulation and control of the importation of alien workers; the operation of employment service offices in each district to assist citizens of the Trust Territory to find employment; and the administration of all manpower programs and other matters related to working conditions and employment in the Trust Territory, including operation of the occupational safety and health program in cooperation with the U.S. Department of Labor.

(5) Protection of Persons and Property: Fiscal Year 1977, $2,527,900; Fiscal Year 1978, $2,600,000; an increase of $72,100. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$+44,300	---	$ 809,000	52	Attorney General -- normal within grade increases plus other support costs necessary to strengthen this office to cope with increasing needs for legal services.
(ii)	+40,400	-10	1,389,700	242	Public safety -- normal within grade increases, as above, partially offset by the elimination of 10 positions and reduction in travel costs.
(iii)	+7,400	---	149,300	20	Immigration -- normal within grade increases, as above.
(iv)	-20,000	-2	252,000	28	Public Defender -- normal within grade increases, as above, more than offset by reduction due to the Northern Marianas Government budgeting for the Northern Marianas Government Public Defender's Office in FY 1978.
	$ +72,100	-12	$2,600,000	342	

In neither FY 1977 nor FY 1978 is there any significant change in program content from the FY 1976 level except for the transfer of the Local Judiciary from Protection of Persons and Property to the "Judiciary" under the Direct Appropriation section of this budget to properly reflect total funding level for both High Court and local courts which have been under the direct supervision of the Chief Justice for the past few years. Rather, the requested increase in funding is largely attributable to normal within grade increases with a part of the increase needed to strengthen Headquarters Attorney General's Office to cope with the constantly growing legal services and caseload work as the societal framework of the Trust Territory becomes more complex.

83-561 O - 77 - 78

Trust Territory of the Pacific Islands

Program Description

While all the four activities in the Protection of Persons and Property program have a common basis in their relationship to Trust Territory legal and regulatory matters, the Public Defender operates independently of the Attorney General who is responsible for the first three of the four activities. Those three activities have the common purpose of providing both the Trust Territory Government and the residents of the area of the Trust Territory under Trust Territory Government jurisdiction with the entire gamut of legal and protective services necessary to ensure the public safety and guarantee the preservation of legal rights. In addition, the Attorney General is responsible for providing legal services required by the High Commissioner and the headquarters staff of the Trust Territory Government including representing the Trust Territory Government in civil cases involving headquarters-level matters. The six District Attorneys represent the Trust Territory Government in all criminal cases tried before the Territorial High Court and in civil cases involving district-level matters. As the chief legal officers in their districts, they also are responsible for advising the district administrator and his staff on all legal matters concerning the district administration.

Protection of Persons and Property Funding

	Program	FY 1977 Estimate	FY 1978 Estimate	Change
(i)	Attorney General	$ 764,700	809,000	+44,300
(ii)	Public Safety	1,349,300	1,389,700	+40,400
(iii)	Immigration	141,900	149,300	+7,400
(iv)	Public Defender	272,000	252,000	-20,000
	Total	$2,527,900	$2,600,000	$+72,100

(i) Attorney General, $+ 44,300 total $809,000.

The Attorney General is directly responsible to the High Commissioner of the Trust Territory Government for the executive direction, administrative control and technical supervision of Trust Territory Government legal matters excluding matters under the jurisdiction of the Judiciary Branch and the Public Defender. He is assisted in meeting this responsibility by a staff, at the Trust Territory

Government headquarters level, of assistant attorneys general and specialists in public safety and immigration matters and, at the district level, by the six district attorneys.

(ii) Public safety, $+40,400 total $1,389,700.

Funds requested for public safety are required to provide for Territorial law enforcement in the area of the Trust Territory of the Pacific Islands under Trust Territory Government jurisdiction and maintenance of jails, fire fighting, registration and inspection of vehicles, licensing of motorists and firearms, and coordinating the disposal of ordnance remaining from World War II. Along with the growth of the citizen population, increasing numbers of alien workers, rising tourist visits and an expanding money economy, the incidence of crime in the Trust Territory is increasing -- particularly, among juveniles. To meet this growing problem, it is clear that not only is more stringent enforcement of the law required to protect the general public but steps must be taken to develop effective crime prevention measures which will serve to at least slow down, if not stop, further increases in crime rates.

(iii) Immigration, $+7,400; total $149,300.

These funds support the Trust Territory Government's administration of the laws (Title 53, Trust Territory Code) which provide for the control of the entrance into, movement within and departure from the Trust Territory of persons, vessels and aircraft. Immigration personnel at airports and docks perform inspections of materials brought into the Territory, check passports and visas of entrants and issue visitor permits for specific periods to qualified entrants. Provision is also made for the issuance of Trust Territory passports to citizens and for the performance of necessary assistance in U.S. Consular functions. Rising tourism, encouraged by the opening of new airports, expansion and improvement of existing airports and the construction of hotels and restaurants, requires expansion of the immigration staff to handle the additional workload.

(iv) Public Defender, $-20,000; total $252,000.

These funds support the Trust Territory Government portion of the Public Defender System in the Trust Territory which provides legal counsel to any resident of the Territory requiring representation in all types of criminal and civil court or administrative proceedings, particularly where the Trust Territory Government is an adverse party, investigating and recording facts surrounding each case and advising clients of their legal rights. Although under the nominal authority and supervision of the High Commissioner, by virtue of the nature of his work and in order to preserve his professional integrity, the Public Defender is guaranteed a free hand in performing the functions for which he is responsible. Trust Territory Government funding requirements are reduced in FY 1978 due to the Northern Mariana Islands Government providing for the support of the Northern Mariana Islands Government Public Defender's Office beginning in FY 1978.

(6) Administration: Fiscal Year 1976, $6,079,900 Fiscal Year 1978, $5,818,000; a decrease of $261,900. The decrease consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$ +6,200	+3	$ 972,500	85	District administration -- normal within grade increases plus establishment of 3 new positions required to administer Marshall District Outer-Islands sub-offices are partially offset by reductions in travel and other costs.
(ii)	+8,600	-4	338,500	15	Administrative services -- within grade increases and other increased costs result in a smaller total increase due to the elimination of 4 positions.
(iii)	-129,300	-16	2,657,900	358	Finance and supply -- within grade increases are more than offset by elimination of 16 positions and reduction in travel and other non-recurring costs.
(iv)	+28,200	+1	660,000	64	Personnel services -- this increase is due to within grade increases plus one new position to work on the Trust Territory Public Service program.
(v)	-52,600	---	311,400	---	Leased housing fund -- reduction in the number of leased houses due to reduction of personnel requiring housing.
(vi)	+3,800	---	127,100	10	Internal audit -- within grade increases are partially offset by reductions in travel and other costs.
(vii)	-13,300	-1	111,400	6	Program and budget -- net decrease resulting from within grade increases which is more than offset by elimination of one position.

Trust Territory of the Pacific Islands

	Amount	Positions	Total Program	Total Positions	Explanation
(viii)	$ -16,000	---	$ 407,000	---	Personnel benefits -- decrease in benefits due to reduction of personnel entitled to benefits.
(ix)	+500	---	6,000	---	Disaster control -- required for on-site examination of district disaster control activities (no personnel funded under this activity).
(x)	-98,000	-1	226,200	20	Territorial planning -- within grade increases, as above, more than offset by the elimination of one position and reduction in travel.
	$-261,900	-18	$5,818,000	558	

In neither FY 1977 nor FY 1978 is there any significant change in program content from the FY 1976 level. Rather, the net decrease in funding the FY 1978 Administration program over the FY 1977 level is based on a concentrated effort to reduce the Trust Territory Government operating costs by 1981 to a level which may be better able to be supported by the future Government of Micronesia.

Program Description

The rather wide array of activities grouped under the "Administration" heading are, as indicated by their designations, all essentially Trust Territory Government service functions commonly required in all large organizations to facilitate their operations. While there is no one official designated as the formal head of all these activities, the Executive Officer is informally responsible for the coordination of these services on a day to day basis. Officially, however, the 6 District Administrators, the Directors of Finance and of Personnel, the Territorial Planning Officer, the Chief Auditor and the Program and Budget Officer report directly to the High Commissioner.

Trust Territory of the Pacific Islands

Administration Funding

	Program	FY 1977 Estimate	FY 1978 Estimate	Change
(i)	District Administration	$ 966,300	972,500	$ +6,200
(ii)	Administrative Services	329,900	338,500	+8,600
(iii)	Finance and Supply	2,787,200	2,657,900	-129,300
(iv)	Personnel Services	631,800	660,000	+28,200
(v)	Leased Housing Fund	364,000	311,400	-52,600
(vi)	Internal Audit	123,300	127,100	+3,800
(vii)	Program and Budget	124,700	111,400	-13,300
(viii)	Personnel Benefits	423,000	407,000	-16,000
(ix)	Disaster Control	5,500	6,000	+500
(x)	Territorial Planning	324,200	226,200	-98,000
	Total	$6,079,900	$5,818,000	-261,900

(i) District Administration, $+6,200 total $972,500.

Each of the 6 District Administrators is directly responsible to the High Commissioner of the Trust Territory Government for the executive direction, administrative control and technical supervision of all operations, programs and functions of the Trust Territory Government within the area of his jurisdiction. He is also responsible for executing all district laws. He is assisted in meeting his responsibility by a staff of officers and a number of departments paralleling those at the Trust Territory Government Headquarters level. In furtherance of implementing the decentralization of authority and responsibility from the headquarters to the district level, and to equate fiscal authority and responsibility with managerial authority and responsibility, funds required for the support of district operations are now being allotted directly to each District Administrator rather than through headquarters department directors, and accounting for allotted funds is being performed at the district level for consolidation, review and audit at the headquarters level.

(ii) Administrative Services, $+8,600; total $338,500.

Funding support is requested under this heading for the following Trust Territory Government Headquarters level activities; management services (provision of mail and messenger service); executive office operations (High Commissioner's official entertainment costs); and

the Liaison Offices located on Guam and in Honolulu to serve as a local point of contact and provide such services and assistance as may be required in those areas. Funding requirements are distributed as follows:

Activity	FY 1976 Actual	FY 1977 Estimate	Change	FY 1978 Estimate
Management Services	$ 85,508	$ 86,300	$+6,600	$ 92,900
Executive Office Operations	29,680	17,300	+100	17,400
Liaison Office - Guam	130,150	142,300	+15,700	158,000
Liaison Office - Honolulu	49,494	55,700	+14,500	70,200
Liaison Office - Okinawa	84,947	28,300	-28,300	- 0 -
Total	$379,779	$329,900	$+8,400	$338,500

(iii) Finance and Supply, $-129,300; total $2,657,900

The Director of Finance is directly responsible to the High Commissioner of the Trust Territory Government for the executive direction, administrative control and technical supervision of: (1) the receipt, disbursement, accounting and reporting on the use made of all funds available to the Trust Territory Government; (2) the procurement, receipt, warehousing, issuance of and record-keeping on supplies and equipment (with the exception of medical supplies and equipment and small local purchases) required to support the operation of the Trust Territory Government; and (3) the Data Processing Center at the Trust Territory Government Headquarters whose workload at the present time is essentially entirely involved in processing payroll and accounting data. At the beginning of FY 1976, initial steps were taken with the assistance of personnel detailed from the Department of the Interior to revamp the Trust Territory Government's financial management system (including accounting, budgeting and data processing) to gain improved control over, and reporting on the use of, all funds available to the Trust Territory Government. The project is expected to take a minimum of two years and the investment of a considerable amount of time and money to produce the required results -- namely, accurate accounting data reported reasonably soon after the close of each month and in a form which is complete and useful for analysis to determine fiscal status and identify problem areas for which management attention is required.

(iv) Personnel Services, $+28,200; total $600,000.

The Director of Personnel is directly responsible to the High Commissioner of the Trust Territory Government for the executive direction, administrative control and technical supervision of the Government's personnel administration system, the principal component of which is the Trust Territory Public Service System which encompasses all categories of Government employees except U.S. Civil Service System personnel. He is assisted in meeting this responsibility by a staff of personnel specialists at the headquarters level who perform recruitment, classification and compensation, employee relations, housing assignment and employee training functions in accordance with the Public Service System Code of Public Regulations and, for U.S. Civil Service personnel, applicable provisions of U.S. Civil Service laws and regulations. District Personnel Officers on the staff of the District Administrators perform such functions at the district level. Particular emphasis is given to the training of Trust Territory citizens to move into positions occupied by non-Territory citizens in preparation for self-government when the Trusteeship is terminated. The Trust Territory Personnel Board members meet quarterly to review all aspects of personnel policies and administration. The Board also adjudicates personnel grievances and appeals on adverse actions.

(v) Leased Housing Fund, $-52,600; total $311,400.

These funds, controlled by the Director of Personnel, are required to lease and furnish privately-owned housing units for assignment to eligible employees of the Trust Territory Government in cases where government-owned units are not available for assignment. This method of providing needed employee housing arises from the policy proposed by the Congress of Micronesia, and concurred in by the High Commissioner, to discontinue the construction of staff housing. Although the number of non-Trust Territory citizens employed by the Trust Territory Government decreases each year as citizen employees replace them, unless the citizen employees are assigned in their home districts they are eligible for government-provided housing, or if such housing is not available, for payment of quarters allowances in lieu thereof. The decrease in funding is due to reduction of personnel who are entitled to housing.

(vi) Internal Audit, $+3,800 total $127,100

The Chief Auditor is directly responsible to the High Commissioner of the Trust Territory Government for the conduct of periodic audits of the accounts of the Government and for such special audits as the High Commissioner may direct that he perform. Generally, with his small staff and in view of the comprehensive audits of the Trust Territory Government performed by the Federal Comptroller for Guam and the Trust Territory, the work of the Chief Auditor is confined to the audit of special situations to determine the causes and possible solutions to specific managerial problems.

(vii) Program and Budget,$-13,300; total $111,400.

The Program and Budget Officer is directly responsible to the High Commissioner of the Trust Territory Government for the executive direction, administrative control and technical supervision of the Government's long-range program planning, the programming of resources required to meet program goals established in the planning process, and both the preparation of budgets submitted to support the provision of funds required by the Government and the control of such funds as may be provided to ensure their use for the purposes for which they were provided. He is assisted in meeting this responsibility by a small staff of budget specialists at the headquarters level who provide assistance to departmental personnel in program planning, and budget preparation and execution and review and consolidate departmental and district (prepared by District Program and Budget Officers) program plans and budgets for the consideration of the Congress of Micronesia, the Department of the Interior, the Office of Management and Budget, and the United States Congress. In conjunction with initiation of the effort to install an improved financial management system for the Trust Territory Government, funds are allotted on the basis of equating fiscal responsibility with managerial responsibility.

(viii) Personnel Benefits, $-16,000; total $407,000.

These funds, controlled by the Director of Personnel, are required to provide: (1) Trust Territory Government social security benefits to Territory citizen employees of the Government who retire (the Trust Territory Government is committed to pay retirement costs for service prior to 1963); (2) death benefits to survivors of Territory citizen employees of the Government; (3) workmen's compensation

insurance; and (4) education allowances for eligible dependents of eligible U.S. citizen employees of the Trust Territory Government. The net decrease in funding is due to reduction of personnel who are entitled to education allowances.

(ix) Disaster Control, $+500; total $6,000.

Under the general supervision of the Special Consultant to the High Commissioner, the Disaster Control Officer is responsible for developing and updating on a continuing basis the Trust Territory Government Plan for Disaster Control, Recovery and Assistance, and for supervision and coordination of temporary relief and permanent recovery following the occurrence of disaster situations. Funds requested are for support of Federal Disaster Assistance Program. No personnel are funded under this activity.

(x) Territorial Planning, $-98,000; total $226,200.

The Territorial Planner is directly responsible to the High Commissioner of the Trust Territory Government for the executive direction, administrative control and technical supervision of the Trust Territory Government comprehensive planning program which includes the physical, social and economic aspects of the development of the Trust Territory in preparation for self-government when the Trusteeship is terminated. He is assisted in meeting this responsibility by a small team of planning specialists, largely at the district level working with the district planning commissions, who develop and continuously update district development master plans which provide the basic building blocks for the formulation of a comprehensive program statement for the Trust Territory Government being developed jointly with the Congress of Micronesia and the Program and Budget Office in conjunction with specialists in assisting developing countries who are on loan from the United Nations Development Program staff.

(7) Transportation and Communications: Fiscal Year 1977, $3,834,600; Fiscal Year 1978, $4,863,000; an increase of $1,028,400. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$ - 0 -	--	$ 80,200	3	Administration -- no change (normal within grade increases are offset by reductions in travel and other support costs.
(ii)	-3,400	--	300,300	35	Transportation -- normal within grade increases, more than offset by reduction in travel and other support costs.
(iii)	+316,700	+4	1,413,000	161	Communications -- normal within grade increases, as above, plus establishment of 4 new positions required to meet increased workload and funds for outer-island communication equipment.
(iv)	+715,100	--	3,069,500	---	Sea Transportation -- increase in ship operation costs due largely to the need to man and operate two new interisland special purpose ships recently acquired to meet Trust Territory shipping requirements.
	$+1,028,400	+4	$4,863,000	199	

In neither FY 1977 nor FY 1978 is there any significant change in program content from the FY 1976 level except the addition of two H-50 special purpose interisland ships acquired to improve Trust Territory Government Sea Transportation capabilities. Rather, the requested increase in required funding is attributable largely to the need to fund outer-island communication equipment and to man and operate the two new special purpose interisland ships. The remaining portion of the increase is due to rising fuel costs and necessary increases in other ship operating costs. It should be noted that, since ship officers and crews are not covered under the Trust Territory Public Service Personnel System, they are not counted as employees of the Trust Territory Government.

Trust Territory of the Pacific Islands

Program Description

The Transportation and Communications program is designed to meet the basic need of the Trust Territory Government and the residents of the Territory for the fast reliable and efficient movement of passengers, cargoes and communications to, from and within the Territory. The provision of these vital services is tremendously complicated by the remote location of the Trust Territory and its widespread geographical dispersion across thousands of miles of the Pacific Ocean. The Transportation and Communications System is being structured in a manner which encourages the participation of Territory citizens in its development and operation in preparation for self-government on termination of the Trusteeship.

Transportation and Communications Funding

	Program	FY 1977 Estimate	FY 1978 Estimate	Change
(i)	Administration	$ 80,200	$ 80,200	$ - 0 -
(ii)	Transportation	303,700	300,300	-3,400
(iii)	Communications	1,096,300	1,413,000	+316,700
(iv)	Sea Transportation	2,354,400	3,069,500	+715,100
	Total	$3,834,600	$4,863,000	$+1,028,400

(i) Administration, $- 0 -; total $80,200.

The Director of Transportation and Communications is directly responsible to the High Commissioner of the Trust Territory Government for the executive direction, administrative control and technical supervision of the Territorial transportation and communications system. He is assisted in meeting this responsibility by a team of transportation and communications specialists who are skilled in all facets of developing and operating all modes of public transportation and communications required to meet the needs of the Trust Territory Government, the residents of, and visitors to, the Territory for reliable means of transportation and communications to, from and within the geographically widespread Territory.

(ii) Transportation, $-3,400; total $300,300.

These funds are required to support the development and administration of the Trust Territory public transportation system which provides for moving an ever increasing volume of passengers and cargo to, from and within the Territory on safe, reliable and regularly-scheduled land, sea and air carriers. To meet the basic need for sea transportation within the Territory among the widely scattered islands, the Government owns and operates a small fleet of interisland ships. It also provides some bus service in addition to school busing, but air transportation is provided entirely by scheduled airlines and privately-owned aircraft. Among the specific functions supported by funds requested under this heading are: the regulation and supervision of public carriers operating in the Trust Territory; the scheduling of Government-operated interisland ships; the chartering and supervision of the operation of Government-owned interisland and transocean ships privately operated under such charters; the provision and operation of navigational aids and markers within the Territory; the provision of marine inspection and licensing procedures; and the development of public carrier tariff schedules, approval of routes and operating schedules. Especially important is the support provided for the training of Territory citizens in public transportation planning, operation and management in preparation for self-government upon termination of the Trusteeship.

(iii) Communications, $+316,700 total $1,413,000.

Funds requested for this activity support the planning, engineering, operation and maintenance of the modern, sophisticated telecommunications system which has been installed to serve the needs of the Trust Territory Government and the residents of the Territory for a means of fast and reliable communications to, from and within the Territory. A high frequency independent sideband communications network links each of the six district centers to the major relay/control center on Saipan. The relay center provides the necessary interface connections between the districts and to worldwide commercial and governmental systems to provide required international telephone and teletype services. A secondary system provides communications between the outer islands and the district centers using over 250 radio installations (both single sideband and very high frequency) installed on all major islands and remote municipalities. This secondary system serves as the only immediate link to the outside world for the approximately 40,000 people who live in these remote areas. Full back-up systems, including power generators,

serve to eliminate, or at least reduce, lengthy communications outages which would endanger the lives of these people since medical emergencies, natural disasters, and food and water shortages can and do frequently occur. The major communications facilities are capable of maintaining continuous contacts with shipping and aircraft operating in the Trust Territory, and they maintain a continuous radio guard on a number of frequencies including the international distress facility. Non-directional radio beacons are operated to provide navigational guidance for all ships and aircraft transiting the area. The Trust Territory communications system is a part of the U.S. National Communications System. Trust Territory citizens have been, and are being, trained to take an increasingly larger role in operating, maintaining and managing the Territorial communications system in preparation for self-government upon termination of the Trusteeship.

(iv) Sea Transportation, $715,100; total $3,069,500.

These funds provide for: (1) the operation of the Trust Territory's small fleet of interisland ships including the two newly acquired M-50 special purpose interisland ships; (2) the operation of Transportation Offices in the Palau, Truk, Ponape and Marshalls Districts; and (3) the operation of the small ship repair facility in Palau. The interisland fleet consists of two new M-50 special purpose ships, and nine others of varying ages, sizes and capabilities ranging from the 111-foot MS Truk Islander to the 242-foot MS Micronesia Princess. Eight of these ships are engaged in regular interisland passenger and cargo operations either operated directly by the Government or under charter to private firms owned by Territory citizens. The other ship is a tug used as required for special towing projects. The ship repair facility located in the Palau District performs relatively minor repair and maintenance work since it has no dry-docking facilities. It should be noted that four 338-foot sister ships, used to augment commercial shipping services to and from the Trust Territory, are operated on a charter basis (either time or voyage) by private firms owned in whole, or in part, by Trust Territory citizens. Charter costs are based on rates designed to provide for the operation and maintenance of these ships without the use of appropriated funds.

Trust Territory of the Pacific Islands

(8) Public Works: Fiscal Year 1977, $8,929,000; Fiscal Year 1978, $8,946,000, an increase of $ 17,000. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	+40,700	---	$ 250,000	16	Administration -- normal within grade increases plus funds required to upgrade maintenance programs required as a result of the accelerated Capital Improvement Program.
(ii)	-258,200	-121	4,290,700	628	Operations and Maintenance -- normal within grade increases, more than offset by the elimination of 121 positions based on continuing efforts to reduce the level of government operation and transferring some services to private sectors.
(iii)	+234,500	-7	4,405,300	336	Utility Services -- within grade increases plus increased fuel costs, partially offset by the elimination of 7 positions.
	$+17,000	-128	$8,946,000	980	

In neither FY 1977 nor FY 1978 is there any significant change in program content from the FY 1976 level except for the transfer of the Capital Improvement program to the OICC, Department of the Navy, and the transfer of the Central Repair Shop to the Northern Marianas Government. Rather, the requested increase in required funding is attributable largely to the need to fund normal within grade increases and higher costs for petroleum, oils, lubricants and other supply and equipment requirements due both to increased prices and additional requirements for the operation and maintenance of new facilities scheduled for completion in FY's 1977 and 1978.

Program Description

The Public Works program is designed to meet the Trust Territory Government's obligation under the Trusteeship Agreement to build, operate and maintain the facilities required to support the social and economic development of the

citizens of the Territory in preparation for their establishing a viable self-government when the Trusteeship is terminated. Given the widespread dispersion of the relatively small population over a remote expanse of the western Pacific Ocean, the logistics involved in putting this basic infrastructure in place and providing for its operation and maintenance under adverse climatic conditions present problems of a nature which requires the application of considerable ingenuity and the investment of considerable resources to resolve. Of particular importance is the concerted effort being made to ensure that the facilities being, and to be, built under the supervision of the Officer-in-Charge of Construction, Marianas, Naval Facilities Command, in accordance with the accelerated Capital Improvement Program can be operated and maintained by the successor government to the Trust Territory Government in a manner that will ensure their continuing availability to serve the purposes for which they were, and are being, built.

Public Works Funding

Program	FY 1977 Estimate	FY 1978 Estimate	Change
(i) Administration	$ 209,300	$ 250,000	+40,700
(ii) Operation and Maintenance	4,548,900	4,290,700	-258,200
(iii) Utility Services	4,170,800	4,405,300	+234,500
Total	$8,929,000	$8,946,000	$+17,000

(i) Administration, $+40,700, total $250,000.

The Director of Public Works is directly responsible to the High Commissioner of the Trust Territory Government for the executive direction, administrative control and technical supervision of the Trust Territory Government Public Works program including the operation and maintenance of Trust Territory Government facilities. He is assisted in meeting this responsibility by a team of public works engineers and specialists who are skilled in all facets of providing for the efficient operation and maintenance of all Trust Territory Government public facilities. It should be noted here that none of these funds are required for the administration of the Capital Improvement Program which is under the supervision of the Naval OICC, Marianas.

83-561 O - 77 - 79

(ii) Operations and Maintenance, $-258,200; total $4,290,700.

These funds are required to support the operation and maintenance of all public facilities and equipment required by the Trust Territory Government for its effective and efficient operation. These facilities range from airports, docks and harbors, roads and bridges through hospitals, dispensaries, schools, police and fire stations, jails, warehouses and garages to court houses, office buildings and employee housing. The equipment ranges from lawn mowers, small boats, outboard motors and cars to road-building, earth-moving, load-lifting and heavy-duty hauling equipment. In short, the requested funds cover the provision of all services needed to maintain in reasonably good working order all facilities and equipment which a government must have in order to function and provide the services expected of it by the governed. Special services may be provided the general public and private contractors on a reimbursable job-order basis when such services are not otherwise available and can be provided without interfering with regular workloads. In addition to covering operation and maintenance costs, these funds also provide for the procurement of supplies, including petroleum, oils and lubricants, spare parts and replacement, or additional, equipment as may be required. The decrease in the funding level in FY 1978 from the FY 1977 level is based on a continuing effort to reduce the costs of government operations by 1981.

(iii) Utility Services, $+234,500; total $4,405,300.

These funds are required to provide power, telephone, water and sewage treatment utilities and cold storage facilities not only for the use of the Trust Territory Government to meet its own operating needs but also to meet the needs of the residents of, visitors to, and private businesses operating in the Trust Territory. Generally, however, these services are available only in the more heavily populated areas in and around the district centers since distribution and collection lines seldom extend much beyond these relatively limited areas at the present time though provision is being made in the acceleration of the Capital Improvement Program for extension of these lines further out from the district centers and to install water and power utilities in remote areas and on outer islands where there is a sufficient population to support the provision of these services. Where there is a reasonable economic base, as there is in the district centers, to levy and collect charges for utility services provided, these reimbursements are used to help support the costs of providing these services.

(9) Development Technical Assistance: Fiscal Year 1977, $380,000; Fiscal Year 1978, $500,000; an increase of $120,000. The increase consists of:

Amount	Positions	Total Program	Total Positions	Explanation
$+120,000	---	$500,000	---	Additional technical advisors required for the development of income producing projects at the district level.
$+120,000	---	$500,000	---	

At the request of the Congress of Micronesia, the Development Technical Assistance program was initially funded in FY 1977 with an appropriation of $380,000. The increase of $120,000 requested in FY 1978 budget will provide for additional three man-years needed to continue the assistance program in the area of agriculture and marine resources.

Program Description

The recently completed indicative development plan for Micronesia emphasizes a great expanded investment budget for the development of the income producing sections of the economy. This investment is required to establish a sound economic base for a sustained rate of growth in the future and to provide a large enough tax base to support the future government of Micronesia. The sectors that are most emphasized in the plan are agriculture, marine resources, tourism, manufacturing and service businesses. The present appropriations for government operations and capital improvements in Micronesia are directed almost entirely to social rather than economic programs. This type of expenditure will not foster economic development. Based on the Micronesian indicative plan, an attempt is being made to correct this situation by shifting more resources from social to economic programs. To do this, technical experts are needed who are not now available in Micronesia. To get this expertise it will be necessary to bring in qualified people on short-term contracts to plan for more infrastructure in the income producing sectors in order to encourage more investment in the private sector. The emphasis will be placed in development at the district level.

TRUST TERRITORY OF THE PACIFIC ISLANDS

9. Enewetak rehabilitation: Fiscal Year 1977, $4,000,000 1/; Fiscal Year 1978; $8,400,000. Increase of $4,400,000.

Program Description

Enewetak Atoll lies among the Marshall Islands, which are a part of the Trust Territory of the Pacific Islands administered by the United States acting on behalf of the United Nations. The atoll had been fortified by the Japanese during World War II and was captured by the United States in 1944, with the local inhabitants being placed under the jurisdiction of the U.S. Armed Forces. After the war, in 1947, the United States decided that the entire atoll was required for its atomic weapons testing program, so notified the United Nations Security Council, and resettled the atoll's inhabitants on nearby Ujeland Atoll. The testing, carried out between 1948 and 1958, severely damaged Enewetak and rendered it uninhabitable.

The United States is committed to rehabilitating Enewetak, whose former residents are most anxious to return. Discussion among various Federal agencies has resulted in this task being allotted in the following manner: Department of Defense - maintaining ongoing facilities and operations in Enewetak, and for clean-up operations; Department of the Interior - rehabilitation of the atoll; Energy Research and Development Administration - radiological monitoring and surveying.

A bill authorizing the appropriation of $12.4 million (July 1976 prices) is being submitted to enable the Department of the Interior to fulfill its portion of the Federal commitment. Such sum would be plus or minus the amount, if any, as may be justified by ordinary fluctuations in costs as indicated by engineering cost indices applicable to the types of construction involved. Since the nuclear use of Enewetak was primarily for the benefit of the United States, the request for a special authorization (separate from the authorization for the Trust Territory) is requested. Such a procedure would show that the funds are specifically for rehabilitation and that they are not being siphoned from programs already slated for Micronesia under our Trusteeship commitments.

Based upon a master plan, prepared by a private consulting firm, it is estimated the operation will cost $12,400,000. Included in this amount is approximately $4,400,000 for replanting of the area and for construction of housing and community facilities; approximately $5,200,000 for facilities, equipment, and operations pertaining to the rehabilitation effort and the remaining $2,800,000 for overhead, profit, and contingencies. These figures are based on July 1976 prices.

$20 million has been appropriated in the FY 1977 military construction bill for cleanup using military personnel. The Department of Defense is far down the road in planning and estimates that moblization and initial set up in Enewetak will be in May 1977. In order to take advantage ofthe military moblization especially in regard to the transportation of supplies and materials for Interior participation in the rehabilitation, $4,0 million is being requested in a FY 1977 supplemental. The balance of the $12.4 million is requested in FY-78.

1/ Proposed FY 1977 supplemental.

Cost Estimates

Fiscal Year 1977

Fund Required for advance facilities and procurement

1.	A&E definitive engineering	$308,000
2.	Procurement management	80,000
3.	Nurseries - plantings	58,000
4.	Medren Pier construction	90,000
5.	Temp. Construction	80,000
6.	Equipment	420,000
7.	Tools and Supplies	400,000
8.	Housing Material procurement	2,564,000
	Total	$ 4,000,000

Fiscal Year 1978

1.	Planting, nurseries, & Grove maintenance	$1,197,000
2.	Construction - Community facilities	504,000
3.	Construction - housing facilities	1,423,000
4.	Moblization & Demoblization	911,000
5.	Construction support - messing etc.	981,000
6.	Road construction	10,000
7.	Sub-Contracts for boats & inspection	104,000
8.	Overhead and Profit	1,300,000
9.	Contingency	1,500,000
10.	Trust Territory Administration Costs ...	470,000
	Total	$8,400,000

Trust Territory of the Pacific Islands

10 Rongelap and Utirik Compensation: Fiscal Year 1977, $-0-; Fiscal Year 1978, $1,058,000. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(1)	+800,000	---	800,000	---	Compansation of $25,000 each for 32 cases of thyroid abnormalities including 3 cancerous cases which all required surgery.
(2)	+ 25,000	---	25,000	---	To the heirs of one person who died of leukemia resulting from radiation related causes.
(3)	+ 75,000	---	75,000	---	Compensation for three persons. Two for thyroid atrophy, and one for neurofibroma tumor of the neck.
(4)	+158,000	---	158,000	---	$1,000 each to the 158 exposed people of Utirik or their survivors.
	$+1,058,000	---	1,058,000	---	

Program Description

RONGELAP AND UTIRIK COMPENSATION

The background on the exposure of the people of Rongelap Atoll and Utirik Atoll to radioactive fallout as a result of thermonuclear testing in March 1954 is well known and need not be repeated here.

In August 1964, the United States Congress appropriated the sum of $950,000, which after legal expenses, was paid to the affected inhabitants of Rongelap Atoll. Each of the 86 exposed individuals or his heirs received approximately $10,500 as a lump sum. The 158 people of Utirik were not compensated since the dosage received was believed, at that time, to be too low to cause any radiation abnormalities.

Since the 1964 payment, thyroid abnormalities, including cancer, have been appearing in the exposed Rongelapese and 25 operations for thyroid removal have taken place. Leukemia also appeared in a 19 year old boy who had been exposed as a one year old infant. This young man died in 1974 in the National Cancer Institute, Clinical Center, Bethesda, Maryland, while being treated for acute myelogenous leukemia. Two cases of thyroid atrophy have occurred and one case of a neurofibroma tumor of the neck. 29 of the original exposed Rongelap population have developed serious thyroid or other abnormalities.

Additionally, in the past two years, 7 cases of thyroid abnormalities, including 3 cancerous cases, have appeared in the Utirik exposed group. All of the 7 cases necessitated thyroid surgery.

In 1972, the Congress of Micronesia created a Special Joint Committee concerning Rongelap and Utirik Atoll. In May 1975, the Chairman of the Special Joint Committee and one of the members met in Washington, D. C. with some 30 U.S. Senators and Congressmen on a request for additional compensation to the exposed persons or their survivors. A sympathetic hearing was received.

The Department of the Interior, in principle, agrees that a re-examination of compensation is warranted in view of the medical abnormalities which have appeared in the exposed Rongelapese and Utirikese since 1964. The Energy Research and Development Administration (ERDA) concurs. Legislation embodying the basic recommendations of the Congress of Micronesia Special Committee, accordingly was prepared and has been submitted to the Office of Management and Budget for transmittal to the U.S. Congress. The compensation would include:

1. An inconvenience payment of $1,000 each to the 158 exposed people of Utirik or their survivors;

2. Payment of $25,000 each per person per thyroid operation, past and future, for surgical removal of neurofibroma tumor, and for atrophy of the thyroid gland; and

3. Payment of $25,000 for the heirs or legatees per stirpes and not per capita of a person dying of radiation-related causes.

The initial compensation settlement under the proposed bill would amount to $1,058,000. The proposed bill, however, would provide for the payment of $25,000 for future thyroid surgery cases, or for deaths from radiation-related causes. The amount involved for these future cases is not anticipated to be large.

TRUST TERRITORY OF THE PACIFIC ISLANDS

AVERAGE NUMBER OF PERMANENT
PERSONNEL ON-BOARD BY ACTIVITY AND PERSONNEL CATEGORY

	FY 1976 Actual	FY 1977 Estimates	FY 1978 Estimates	FY 1978 compared to FY 1977
A. DIRECT APPROPRIATION				
1. Office of the High Commissioner:				
U.S. Civil Service	8	6	6	-0-
TT Public Service:				
Non TT Citizens	1	5	5	-0-
TT Citizens	8	6	6	-0-
Total, TT Public Service	9	11	11	-0-
TOTAL	17	17	17	-0-
2. JUDICIARY (High Court and Local Court):				
U.S. Civil Service	6	6	6	-0-
TT Public Service:				
Non-TT Citizens	-0-	1	1	-0-
TT Citizens	6	54	46	-8
Total, TT Public Service	6	55	47	-8
TOTAL	12	61	53	-8
TOTAL DIRECT APPROPRIATION:				
U.S. Civil Service	14	12	12	-0-
TT Public Service:				
Non-TT Citizens	1	6	6	-0-
TT Citizens	14	60	52	-8
Total, TT Public Service	15	66	58	-8
TOTAL	29	78	70	-8

	FY 1976 Actual	FY 1977 Estimates	FY 1978 Estimates	FY 1978 compared to FY 1977
B. GRANT - OPERATIONS				
1. HEALTH SERVICES:				
U.S. Civil Service	1	1	-0-	-1
TT Public Service:				
Non-TT Citizen	16	26	26	-0-
TT Citizen	983	899	890	-9
Total, TT Public Service	999	925	916	-9
TOTAL	1,000	926	916	-10
2. EDUCATION:				
U.S. Civil Service	5	5	3	-2
TT Public Service:				
Non-TT Citizen	116	132	120	-12
TT Citizen	1,927	1,805	1,799	-6
Total, TT Public Service	2,043	1,937	1,919	-18
TOTAL	2,048	1,942	1,922	-20
3. PUBLIC AFFAIRS:				
U.S. Civil Service	4	4	3	-1
TT Public Service:				
Non-TT Citizen	6	4	3	-1
TT Citizen	213	159	156	-3
Total, TT Public Service	219	163	159	-4
TOTAL	223	167	162	-5
4. RESOURCES & DEVELOPMENT:				
U.S. Civil Service	16	16	15	-1
TT Public Service:				
Non-TT Citizen	22	38	39	+1
TT Citizen	665	677	651	-26
Total, TT Public Service	687	715	690	-25
TOTAL	703	731	705	-26

	FY 1976 Actual	FY 1977 Estimates	FY 1978 Estimates	FY 1978 compared to FY 1977
5. PROTECTION OF PERSONS AND PROPERTY:				
U.S. Civil Service	2	2	2	-0-
TT Public Service:				
Non-TT Citizen	14	30	27	-3
TT Citizen	271	322	313	-9
Total, TT Public Service	285	352	340	-12
TOTAL	287	354	342	-12
6. ADMINISTRATION:				
(a) Finance & Supply:				
U.S. Civil Service	20	23	20	-3
TT Public Service:				
Non-TT Citizen	14	15	14	-1
TT Citizen	299	336	324	-12
Total, TT Public Service	313	351	338	-13
TOTAL	333	374	358	-16
(b) Personnel Service:				
U.S. Civil Service	4	4	3	-1
TT Public Service:				
Non-TT Citizen	6	6	6	-0-
TT Citizen	51	53	55	+2
Total, TT Public Service	57	59	61	+2
TOTAL	61	63	64	+1
(c) Other Services:				
U.S. Civil Service	22	18	16	-2
TT Public Service:				
Non-TT Citizen	16	20	18	-2
TT Citizen	104	101	102	+1

	FY 1976 Actual	FY 1977 Estimates	FY 1978 Estimates	FY 1978 compared to FY 1977
Total, TT Public Service	120	121	120	-0-
TOTAL	142	139	136	-3
(d) Total, Administration:				
U.S. Civil Service	46	45	39	-6
TT Public Service:				
Non-TT Citizen	36	41	38	-3
TT Citizen	454	490	481	-9
Total, TT Public Service	490	531	519	-12
TOTAL	536	576	558	-18
7. TRANSPORTATION & COMMUNICATIONS:				
U.S. Civil Service	11	8	7	-1
TT Public Service:				
Non-TT Citizen	4	11	11	-0-
TT Citizen	159	176	181	+5
Total, TT Public Service	163	187	192	+5
TOTAL	174	195	199	+4
8. PUBLIC WORKS:				
U.S. Civil Service	17	14	11	-3
TT Public Service:				
Non-TT Citizen	19	19	19	-0-
TT Citizen	1,018	1,075	950	-125
Total, TT Public Service	1,037	1,094	969	-125
TOTAL	1,054	1,108	980	-128

	FY 1976 Actual	FY 1977 Estimates	FY 1978 Estimates	FY 1978 compared to FY 1977
TOTAL, GRANT - OPERATIONS:				
U.S. Civil Service	102	95	80	-15
TT Public Service:				
Non-TT Citizen	233	301	283	-18
TT Citizen	5,690	5,603	5,421	-182
Total, TT Public Service	5,923	5,904	5,704	-200
TOTAL	6,025	5,999	5,784	-215
C. GRANT - CAPITAL IMPROVEMENT PROGRAM:				
1. Design and Engineering:				
U.S. Civil Service	-0-	-0-	-0-	-0-
TT Public Service:				
Non-TT Citizen	10	6	-0-	-6
TT Citizen	13	8	-0-	-8
Total, TT Public Service	23	14	-0-	-8
TOTAL	23	14	-0-	-14
2. Construction Contract Administration:				
U.S. Civil Service	3	3	-0-	-3
TT Public Service:				
Non-TT Citizen	17	21	-0-	-21
TT Citizen	15	16	-0-	-16
Total, TT Public Service	32	37	-0-	-37
TOTAL	35	40	-0-	-40
TOTAL, GRANT-CAPITAL IMPROVEMENT PROGRAM				
U.S. Civil Service	3	3	-0-	-3

	FY 1976 Actual	FY 1977 Estimates	FY 1978 Estimates	FY 1978 compared to FY 1977
TT Public Service:				
Non-TT Citizen	27	27	-0-	-27
TT Citizen	28	24	-0-	-24
Total, TT Public Service	55	51		-51
TOTAL	58	54		-54
TOTAL PAID FROM DIRECT APPROPRIATION AND GRANTS: 1/				
U.S. Civil Service	116	107	92	-15
TT Public Service:				
Non-TT Citizen	234	307	289	-18
TT Citizen	5,704	5,663	5,473	-190
Total, TT Public Service	5,938	5,970	5,762	-208
TOTAL	6,054	6,077	5,854	-223
D. PRINTING & PUBLICATIONS: 2/				
U.S. Civil Service	1	1	1	-0-
TT Public Service:				
Non-TT Citizen	2	2	2	-0-
TT Citizen	34	35	34	-1
Total, TT Public Service	36	37	36	-1
TOTAL	37	38	37	-1
GRAND TOTAL:				
U.S. Civil Service	120	111	93	-18
TT Public Service:				
Non-TT Citizen	263	336	291	-45
TT Citizen	5,766	5,722	5,507	-215
Total, TT Public Service	6,029	6,058	5,798	-260
TOTAL	6,149	6,169	5,891	-278

Trust Territory of the Pacific Islands

Printing and Publications Operations

Revenues and Expenses

Objects of Expenditure	FY 1976 Actual	FY 1977 Estimate	FY 1978 Estimate
Personnel Services:			
U.S. Civil Service	$ 25,588	$ 25,700	$ 32,361
Non-TT Citizen Compensation	12,397	26,100	21,400
TT Citizen Compensation	118,098	120,355	136,691
Personnel Benefits	4,339	3,921	4,460
Total, Personnel	160,422	176,076	194,912
Other:			
Travel	7,632	18,954	14,826
Rent, Communications and Utilities	48,776	33,000	30,000
Printing and Reproduction	16,145	20,000	5,000
Other Services	23,649	8,200	6,200
Supplies and Materials	158,903	107,500	96,960
Equipment	175	32,100	- 0 -
Total, Other	255,280	219,754	152,986
Total Obligations	415,702	395,830	347,898
Reimbursements	324,270	395,830	347,898
Net result of operations	$-91,432	$ - 0 -	$ - 0 -

The Chief of the Printing and Publications Division of the Public Affairs Department is responsible to the Director of Public Affairs for meeting the printing and publications needs of the Trust Territory Government. The Division is staffed and equipped to handle about 95% of the Government's printing and copying services and requirements, and it contracts for provision of the remaining requirements. The Division is supported entirely from user-charges levied for printing and publications services provided. In addition to providing printing and copying services, the Division provides for the distribution of publications, control and management of forms utilized by the Government and the microfilming of records and documents both for safe-keeping and reduction of storage requirements. The need for establishing small printing and publications shops in the six administrative districts of the Territory to reduce time lags and shipping costs in meeting district printing and publications requirements is being studied.

TRUST TERRITORY OF THE PACIFIC ISLANDS

CONGRESS OF MICRONESIA

Pursuant to the Secretary of Interior's Order 2882, the Congress of Micronesia was created on September 28, 1964, consisting of two Houses, the Senate and the House of Representatives. The Senate is composed of 12 Senators, two from each of the six administrative districts, elected for a term of four years. The House of Representatives is composed of 21 Representatives, elected on a population basis from each of the twenty-one representative districts for a two-year term. Up to July 26, 1968, four amendments were issued which made several significant changes to the Order.

On December 27, 1968, Secretary Order 2918 was issued and consolidated previous Trust Territory Orders, and their amendments, into a single document. The Legislature provisions, formerly contained in Order 2882 and its four amendments, are Part III of Order 2918.

On August 13, 1970, Amendment No. 1 to Secretarial Order 2918 was issued which made several significant changes to the Order, among which are the lengthening of the present 45-day session to 50 days, and moving the Regular Session from July to January beginning with the 4th Congress, 1st Regular Session of the Congress of Micronesia.

Section 4 of the Order, as amended, sets forth the legislative authority of the Congress of Micronesia to enact tax laws and other revenue laws, and provides in part federal subsidy to the Congress of Micronesia. The pertinent Section 4 of the Order, as amended, reads as follows:

> "Section 4. Budget . Money bills enacted by the Congress of Micronesia shall not provide for the appropriation of funds in excess of such amounts as are available or estimated to be available from revenues raised pursuant to the tax laws and other revenue laws of the Trust Territory: Provided, that the Secretary of the Interior shall, from time to time, define the term 'revenue' as used herein, so as generally to exclude therefrom all sums attributable to user charge or service related reimbursements to the Government of the Trust Territory.
>
> Prior to his final submission to the Secretary of the Interior of requests for Federal funds necessary for the support of governmental functions in the Trust Territory, the High Commissioner shall prepare a preliminary budget plan. He

shall submit such plan to the Congress of Micronesia or the appropriate authorized committee or committees thereof for its review and recommendations with respect to such portions as relate to expenditures of funds proposed to be appropriated by the Congress of the United States. With respect to such portions of the preliminary budget plan, the High Commissioner shall adopt such recommendations of the Congress or the appropriate authorized committee or committees thereof as he shall deem appropriate, but he shall transmit to the Secretary of the Interior all recommendations he has not adopted.

For Fiscal Years 1971 and 1972, the Congress of Micronesia is authorized $125,000 from Federal grants appropriated to the Trust Territory of the Pacific Islands by the Congress of the United States, for operations and expenses of the Congress of Micronesia. For succeeding fiscal years, the Congress of Micronesia may request continuing or additional funds for its operations and expenses. Such requests shall be incorporated in the High Commissioner's preliminary budget plan for processing as set forth in this section."

Trust Territory of the Pacific Islands

Congress of Micronesia

Estimated Revenues by Sources

Sources:	FY 1976 Actual	FY 1977 Estimate	FY 1978 Estimate
1. Public Law 4C-2			
Income Tax	$4,601,743	$3,075,332 1/	$3,200,000
2. Public Law 4-22			
Business Licenses	42,891	29,000	35,000
Gasoline and Diesel Fuel Tax	453,138	78,000	80,000
Scrap Metal Export Tax	3,218	700	---
Import Taxes	2,373,688	1,341,000	1,400,000
3. Other Revenues			
Court Fines, Penalties, etc.	71,271	55,000	60,000
Unimproved Land Rental	198,255	18,000	25,000
Other Property Rental	47,885	45,000	50,000
Corporation Eax (Mobil)	-0-	-0-	-0-
Miscellaneous	35,025	20,000	25,000
Total	$7,827,114	$4,662,032	$4,875,000

1/ Based on 2% wage and salary tax and 1% Business Gross Revenue Tax (net of District Surtax) (per Public Law 6-52).

83-561 O - 77 - 80

Trust Territory of the Pacific Islands

Congress of Micronesia

Summary of Appropriations

Congress Operational Expenses	Public Law No.	Fiscal Year 1977
1. Senate and House Expenses	6-34 and 6-35	$ 889,612
2. Special Session	6-34 and 6-35	38,000
3. Legislative Counsel's Office	6-83(1)	561,469
4. Special Session, Legislative Counsel's Office	6-83(2)	68,000
5. Joint Committee on Future Status	6-34	
6. Joint Committee on Administrative Appointments	6-34	3,000
7. Special Joint Committee Concerning Rongelap and Utirik	6-79	10,000
8. Joint Committee on Program and Budget Planning	6-35	34,000
9. Joint Committee on the Law of the Sea Conference	6-35	146,600
10. Standing Committees, House and Senate		40,000
Sub-Total		$1,790,681
Other Programs		
1. Revenue Division	6-73	$ 327,800
2. Social Security Administration	6-76	88,590
3. Updating Voters' Registration Lists	6-77	25,000
4. November 1976 Congerss of Micronesia General Elections	6-81	70,000
5. To translate the Constitution of the Federated States of Micronesia	6-82	21,000
6. Micronesian Development Bank	6-92	25,000
7. Emergency Agriculture Program for Outer Islands of Truk District	6-93	51,500
8. Vocational Agriculture Program	6-94	30,000
9. Repair of M.S. Ran Annim	6-96	95,000
10. Marshall Islands Development Authority	6-105	250,000
11. Territorial Housing Commission	6-106	113,000
12. Micronesian Washington Liaison Office	6-109	120,000
13. Commission on Future Political Status and Transition	6-89	100,000
Sub-Total		$1,316,890
Total Appropriations FY 1977		$3,107,571

Trust Territory of the Pacific Islands

Summary of Other Federal Grants

Activity	Federal Grantor Agency	FY 1976 Actual	FY 1977 Program	FY 1978 Comp. FY 1977 Inc. (+) or Dec. (-)
Health Services	HEW	$ 1,443,929	$1,028,335	$ -415,594
	National Institute of Health	- 0 -	275,854	+275,854
	EPA	123,000	67,431	-55,569
		1,566,929	1,371,620	-195,309
Education	HEW	4,197,421	3,977,446	-219,975
	USDA	2,529,469	35,801	-2,493,668
	Oregon Board of Education	2,000	- 0 -	-2,000
	Union of Colleges and Universities	- 0 -	11,820	+11,820
		6,728,890	4,025,067	-2,703,823
Public Affairs	HEW	705,320	10,000	-695,320
	Community Service Adm.	- 0 -	4,750	+4,750
	Department of Labor	43,167	106,000	+62,833
	Department of Justice	65,000	50,000	-15,000
		813,487	170,750	-642,737
Resources and Development	Department of Commerce	55,100	10,300	-44,800
	DOI/National Park Service	144,390	144,390	- 0 -
		199,490	154,690	-44,800
Administration	Department of Labor	1,381,932	685,249	-696,683
	HUD	400,000	87,150	-312,850
	USDA	47,374	- 0 -	-47,374
		1,829,306	772,399	-1,056,907
Public Works	FDAA	250,000	1,687,440	+1,437,440
	FDAA	141,037	- 0 -	-141,037
		391,037	1,687,440	+1,296,403
	TOTAL	$11,529,139	$8,181,966	$-3,347,173

TTPI 81

Trust Territory of the Pacific Islands

CAPITAL IMPROVEMENT PROGRAM

Type of Improvement	FY 1977 Current Appropriated	FY 1978 Estimate	FY 1978 Compared to FY 1977 Increase (+) Decrease (-)
1. A&E Planning	$ 200,000	--	$-200,000
2. Public Affairs Facilities	--	--	--
3. Legal Affairs Facilities	118,000	--	-118,000
4. Judiciary Facilities	--	30,000	+30,000
5. Education Facilities	--	--	--
6. Public Health Facilities	85,000	--	-85,000
7. Transportation & Communication Facilities	11,970,000	9,418,000	-2,552,000
8. Resources & Development Facilities	300,000	3,592,000	+3,292,000
9. Community Development Facilities	390,000	--	-390,000
10. Water, Sewer, and Power Facilities	3,835,000	7,762,000	+3,927,000
11. Maintenance & Rehabilitation Facilities	--	205,000	+205,000
12. General Support Facilities	--	92,000	+92,000
13. Construction Support Facilities	--	--	--
Total	$16,898,000	$21,099,000	$+4,201,000

Type of Improvement	Transition Quarter Carry Over	FY 1977 Regular Appropriation	FY 1977 Current Program
1. A&E Planning	$ 100,000	$ 200,000	$ 300,000
2. Public Affairs Facilities	--	--	-0-
3. Legal Affairs Facilities	797	118,000	118,797
4. Judiciary Facilities	1,106	--	1,106
5. Education Facilities	1,166,179	--	1,166,179
6. Public Health Facilities	1,495,214	85,000	1,580,214
7. Transportation & Communication Facilities	6,935,225 1/	11,970,000	18,905,225
8. Resources & Development Facilities	30,880	300,000	330,880
9. Community Development Facilities	334,528	390,000	724,528
10. Water, Sewer, & Power Facilities	769,558	3,835,000	4,604,558
11. Maintenance & Rehabilitation Facilities	151,578	--	151,578
12. General Support Facilities	216,069	--	216,069
13. Construction Support Overhead	355,560	--	355,560
Total	$11,556,694 1/	$16,898,000	$28,454,694

1/ Of this amount approximately $5.6 million is for inter-island ships. Contract for this amount and FY 1977 amount of $4.4 million is to be awarded by the end of January 1977, $2.4 million has already been obligated perviously for purchase of two ships.

TRUST TERRITORY OF THE PACIFIC ISLANDS
CAPITAL IMPROVEMENT PROGRAM
FISCAL YEAR 1978

Highlight Statement

A Memorandum of Agreement executed in February 1976 between the Naval Facilities Engineering Command (NAVFAC) and the High Commissioner, Trust Territory of the Pacific Islands (TTPI) tasks the Officer in Charge of Construction, Marianas (OICC) with the responsibility for the administration of design and construction of the TTPI Capital Improvement Program (CIP).

A general capital improvement plan has been developed that defines a basic infrastructure appropriate to the desired stage of development for each district. This plan sets a high priority on the completion of primary roads, utilities, airfields, and shipping facilities (harbors and docks) without which sustained economic development is impossible.

A schedule for the completion of this specific long-term capital improvement is still being formulated to fall within the anticipated budget resources.

One objective of this program is to concentrate funds on the priority projects of the basic infrastructure in each district in turn, such that the basic CIP requirements of all of the districts are fulfilled upon completion of this program. This will allow advertising construction packages of sufficient size in each district to attract construction firms possessing the resources essential to effective and efficient accomplishment of the contracts.

By concentrating available CIP and matching funds in fewer districts at one time, thus permitting the formation of design and construction contracts of substantial magnitude, the following benefits will be realized:

a. A planned schedule of completion by district can be projected.

b. Multiple mobilization costs will be greatly reduced.

c. One design contract will be awarded per district thereby enabling the selected firms to obtain and utilize an in-depth knowledge of the district's unique characteristics and concurrently minimizing Architect-Engineer mobilization costs.

d. The one construction contractor mobilized in a district will minimize the impact upon the community of competition for such limited district assets as natural resources, construction camp and plant space requirements, and housing and recreational facilities.

e. Complete and usable facilities of the basic infrastructure would be completed, wherever possible, under one contract and by change order to the basic contract as out year funds became available, thereby reducing overall construction time and costs with the inherent benefit of more effective coordination and equipment mobilization.

The following general construction schedule is planned based on availability of yearly funding:

Funds	Scheduled
FY 76 and FY 77	Major construction package on Palau and Yap. Initial work in Marshalls.
FY 78	Major construction package on Ponape and Kusaie. Initial construction work on Truk.
FY 79	Major construction package on Truk. Follow-on work, Palau, Yap, Ponape, Kusaie, and Marshalls.
FY 80	Heavy follow-on work in Kusaie and Marshalls.

The Fiscal Year 1978 Program

A total of $21,099,000 is requested to be appropriated for the FY 1978 Capital Improvement Program. The funds requested will be used to award large construction contracts in Poanpe and Kusaie and to award Phase II of the Truk airfield re-construction program. Portions of the funds will be used in other districts to fund projects essential to the overall program to provide the basic facilities infrastructure that were deferred due to funding shortfalls in the previous year. In addition to the $20,772,000 Capital Improvement Program administered by the OICC, the Trust Territory Government needs $327,000 for judiciary facilities, water resources study, emergency minor construction, and construction materials.

The FY 1978 funds will be required to assure that the planned construction proceeds according to schedule.

All estimates are complete project costs and include construction administration, contractor overhead, mobilization, and contingency. Design costs and land acquisition are not included. All costs have been adjusted to FY 1978 dollars.

TRUST TERRITORY OF THE PACIFIC ISLANDS
FY 78 CAPITAL IMPROVEMENT PROGRAM

Type of Improvement	FY 78 Estimates
1. A&E Planning	0
2. Public Affairs Facilities	0
3. Legal Affairs Facilities	0
4. Judiciary Facilities	$ 30,000
5. Education Facilities	0
6. Public Health Facilities	0
7. Transportation & Communications Facilities	9,418,000
8. Resources and Development Facilities	3,592,000

9. Community Development Facilities	0
10. Water, Sewer, and Power	$7,762,000
11. Maintenance and Rehabilitation of Equipment and Facilities	205,000
12. General Support	92,000
13. Construction Support Facilities	0
Total	$21,099,000

1. A&E Planning - -0-

2. Public Affairs Facilities - $ -0-

No funds requested in FY 1978 for Public Affairs Facilities.

3. Legal Affairs Facilities - $ -0-

No funds requested in FY 1978 for Legal Affairs Facilities.

4. Judiciary Facilities - $30,000

Funds requested in FY 1978 will be used to remodel and expand the existing courthouse in Kusaie. The present facility barely consists of a District Court Judge Chambers, a small Clerk's office and Library, a small courtroom, two offices for the Public Defender and the Prosecutor, and toilet facilities. When Kusaie is upgraded to district status, responsibility will normally be expanded resulting in additional court business, both in the District and the High Court. Judiciary proposes to remodel and expand the existing building to provide for one additional High Court Chambers, and a separate law library space. These officec are essential to improve services of the courts to that community.

5. Education Facilities - $ -0-

No funds requested in FY 1978 for Education Facilities.

6. Public Health Facilities - $ -0-

No funds requested in FY 1978 for Public Health Facilities.

7. Transportation and Communications Facilities - $9,418,000

Funds requested in FY 1978 will be used to advertise one large construction contract in the Ponape District and one in the Kusaie District. (District status obtained January 1977). Equipment mobilized under these contracts will be common to most follow-on work with the districts. Portions of the funds will be used in other districts to fund projects essential to the overall program that were deferred due to funding shortfalls or work that is best accomplished by district forces.

Funds requested in FY 1978 will be used for the following projects:

a. Roads, Yap		$ 1,123,000
b. Roads, Ponape		1,346,000
c. Roads, Kusaie		2,583,000
d. Dock, Kusaie		3,369,000
e. Airfield, Moen, Truk		997,000
	Total	$ 9,418,000

a. Roads, Yap - $1,123,000

The existing unsurfaced coral base roads common to all districts require constant maintenance to keep them passable. The repairing of chuckholes and replacement of base material is a never-ending process that is extremely costly and time-consuming. The annual toll on private and Government vehicles caused by the rough unpaved roads runs into the millions of dollars each year.

The funds requested in FY 1978 will be used to provide the first increment of an all-weather paved primary road from the Yap airport to the town of Colonia. Roads will be constructed complete with drainage and drainage structures.

Additional funding will be requested in FY 1979 and FY 1980 to complete the primary road system in the town of Colonia and extending to the new hospital now under construction.

b. Roads, Ponape - $ 1,346,000

The funds requested in FY 1978 will be used to provide the first increment of an all-weather paved road system linking the various municipalities of Ponape with the proposed new TTPI Capital site. The first section to be constructed will be from the existing airport to Kolonia. Additional funds will be requested in FY 1979 and FY 1980 to complete as much of the road system as possible with available funds.

The Ponape District has established a road building program using on-island forces that have the capability to construct coral base roads. A portion of the funds requested ($173,000) will be used to construct secondary roads in areas where it is not economically feasible to accomplish this work utilizing highly mechanized contractor capability. This effort will compliment the work that is planned to be constructed by large contract during FY 1978, 1979, and 1980.

c. Roads, Kusaie - $2,583,000

A new harbor/dock and airfield complex is in the advanced stages of design for this new district. At the present time there is no road between the community of Tafonsak and the proposed harbor site and a very minimal road from Tafonsak to the district center. The section of road will be the primary link between the transportation/industrial center created with the construction of the harbor and dock facility and the various communities.

Funding requested in FY 1978 will be used to provide an initial coral base, well drained road connecting the District center at Lelu with the new dock facility to be constructed in phases starting in FY 1978.

Additional funds will be requested in FY 1979 to upgrade this road to an all-weather paved road as well as expand the existing road system to facilitate economic development. This work will be advertised with the new harbor and dock construction in one large contract to maximize the advantage of one mobilization. Follow-on work will be funded in FY 1979 and FY 1980.

d. Dock and Harbor Complex, Kusaie - $3,369,000

Design work on the Kusaie dock and harbor complex is nearing completion; however, to fit into the overall construction schedule the work will not be advertised for construction until FY 1978. Although funds were appropriated for this project in FY 1977 appropriations, the amount was inadequate to provide a complete and useable facility. To meet the construction schedule that has been established, it will be necessary to reprogram these FY 1977 funds to projects scheduled to be advertised during calendar year 1977.

The new harbor and dock complex, essential for sustained economic growth of the new district, is expected to cost over $6,000,000. Funding requested in FY 1978 will be adequate to do the necessary dredging, land fill, and site work.

Since mobilization on this remote island is extremely expensive this work will be included with the road and advertised as one large construction contract to take advantage of requiring only one mobilization. Cost of follow-on work would be reduced as mobilization of equipment common to follow-on work would have already occurred.

Additional funding ($3,573,000) will be requested in FY 1979 to complete the dock facility.

e. Airfield Extension and Paving, Moen, Truk District - $997,000

The Truk airfield is considered by many pilots that fly into it as one of the most dangerous fields in the Trust Territory. The existing 5100 foot unpaved runway has no safety zones on either end and allows no margin for pilot error. With the anticipated increase in air traffic in the Trust Territory, it is extremely important that the airfields be brought up to minimum FAA standards.

Due to yearly funds made available by FAA to the TTPI in the Airport Development Assistance Program (ADAP), it will be necessary to fund the Truk Airport in two increments.

$997,000 is requested in FY 1978 to provide funds necessary to participate in the Airport Development Assistance Program (ADAP) for the second increment.

The proposed construction will provide an all-weather, paved runway of 6900 feet. The 6900 feet runway with airfield lighting, emergency electrical generation equipment, navigational aids, and landing aids will provide an airfield that meets FAA safety and operational standards for 727 type aircraft.

8. Resources and Development Facilities - $3,592,000

Funds requested in FY 1978 are required for:

a.	Marine Resources Facility, Ponape	$ 1,347,000
b.	Marine Resources Facility, Truk	2,245,000
	Total	$ 3,592,000

a. Marine Resources Facility, Ponape - $1,347,000

Ponape District has begun an expansion of its marine resources facility planned for Takatik Island and the facility is anticipated to adequately accomodate and support the fishing activities of Ponape. A feasibility study has been completed and some minor land-fill work has already been done.

The complex will eventually require at least a two-acre site. Facilities planned for the site include a fishing dock, freezer, storage and ice plants, a marine resources station, a Fishing Authority and fisheries co-op building, and a boat fueling and repair capability.

The funds requested in FY1978 will be used to continue work on the landfill and the dock face. Facilities will be added and additional funding requested over time to allow the growth of the fisheries complex to match the growth in the fishing industry in Ponape.

b. Marine Resources Facility, Truk - $2,245,000

The Truk District has recently completed a feasibility study as the first phase in the program to rebuild the tuna fishing industry on the island of Dublon.

Funds requested in FY1978 will be used for the initial pre-construction phase which includes expansion and upgrading of an existing causeway and deep water pier on Dublon. The planned complex includes the construction of adequate docking and berthing facilities providing deep water access. 46,000 square feet of hard-stand will be provided with basic utilities. Once this phase is completed Truk will have the necessary industrial site to attract commerce interests to invest in a fisheries complex.

Additional funds will be requested in FY1979 to complete the basic utility requirements.

9. Community Development Facilities - $ -0-

No funds are requested in FY1978 for Community Development.

10. Water, Sewer, and Power Facilities - $7,762,000

Funds requested in FY1978 will be used to upgrade and extend utility systems on Palau, Ponape, Kusaie, and Ebeye in the Marshalls. Additional funds will be required in FY1979 and FY1980 to complete the basic utility systems in all districts.

Funds requested in FY1978 will be used for the following projects:

a.	Water, Palau	$ 2,911,000
b.	Water, Ponape	797,000
c.	Water, Kusaie	1,168,000
d.	Water, Ebeye, Marshalls	562,000
e.	Sewer, Ponape	876,000
f.	Electrical, Yap	337,000
g.	Electrical, Ponape	426,000
h.	Electrical, Kusaie	685,000
	TOTAL:	$ 7,762,000

a. Water, Palau - $2,911,000

Although funds were appropriated for this project in FY1977, they were inadequate to cover the scope of the project. To meet the construction schedule that has now been established, it will be necessary to reprogram the funds provided for this project to projects scheduled to be advertised during calendar year 1977.

Funding requested in FY1978 will be used to upgrade the basic water system for Koror, Peleliu, and Angaur.

(1) Koror Water System - $2,210,000

A basic system of storage, filtration, and distribution is nearing completion. Funds requested will be used to replace old lines constructed during Japanese times and to tie into the new system. A new 12-inch line will be installed to replace the main distribution line crossing the Koror-Babelthaup channel. The existing line is an 8-inch rubber hose that is extremely vulnerable to deterioration and mechanical damage. The new line will be complete with necessary pump stations and appurtenances.

(2) Angaur Water System - $250,000

Replace 2,600 lineal feet of 6" steel "invasion" piping with more permanent material and provide two 5,000-gallon water storage tanks. Existing water pumps will be replaced.

(3) Peleliu Water System - $451,000

An existing water system on Peleliu is totally dependent on shallow wells for water supply. These wells have become contaminated by sea water. Funds requested in FY1978 will be used to develop a water catchment system, replace two (2) existing water pumps and power units, and upgrade existing 6" steel "invasion" pipe.

b. Water, Ponape - $797,000

The basic water system on Ponape is essentially complete requiring some additional distribution mains and service laterals to make it a complete and useable system.

Funds requested in FY1978 will be used to provide 5000 lineal feet of distribution and approximately 4000 feet of service laterals. Additional fire hydrants are required in the District center to provide fire protection for the shops and homes in the town of Kolonia.

The existing primary distribution system will be expanded to provide for the new TTPI Capital site.

c. Water, Kusaie - $1,168,000

The existing water system now in use by the residents of Lelu is in advanced stages of deterioration and is extremely vulnerable to contamination. The existing dam is in good condition and will be utilized for the new system.

Funds requested in FY1978 will be used to provide a new filtration and chlorination plant and to replace the main 8-inch distribution line that is badly deteriorated. A new million gallon storage tank will also be constructed.

Additional funds will be requested in FY 1979 to continue expansion of existing system to meet the growing demands of this new District.

d. Water, Ebeye, Marshall Islands - $562,000

The heavily populated island of Ebeye in the Kwajalein Atoll faces a chronic water shortage to such an extent that water must be barged from Kwajalein during the dry season at considerable expense.

The $562,000 requested in FY 1978 will be used to expand the surface collection system and provide additional storage capacity to meet immediate requirements.

e. Sewer, Ponape - $876,000

The Ponape sewage treatment plant is nearing completion as well as the sewer collection system in the District center so that the major funding and construction of the system has been accomplished.

To complete the system and put the new treatment plant to efficient use, it is necessary to expand the collection system into the municipality of Sokehs. Raw sewage from the east side of Sokehs Island is presently discharged into the harbor. Pollution resulting from this discharge is creating a serious health problem.

Funds requested in FY 1978 will be used to provide sewer mains from Sokehs to the existing Kolonia system. The project will include a 350 gpm pump station, seven ejector stations, necessary manholes, and 43,500 lineal feet of gravity and force main sewer lines. With the completion of this work the majority of the population of Ponape will have service available. The EPA will be requested to participate in this project.

f. Electrical System, Yap - $337,000

A rather extensive electrification program is underway on Yap which requires additional funds to make it a complete and useable system. The District is planning to overhaul and install three 750 KW generators in a new power plant recently completed to increase the capacity now available. To fully utilize the capacity of the new power plant plus the additional capacity to be available in the near future, it is essential that the existing 13.8 KW distribution lines be extended to the various areas not now serviced.

The $337,000 requested for FY1978 will be used to overhaul three 750 KW generators and to extend power distribution to the new hospital now nearing completion.

Additional funds will be requested in FY1979 to provide electrical distribution in the Gilman and Map municipalities.

g. Electrical System, Ponape - $426,000

A new double circuit 13.8 KV, three-phase line has recently been completed from the new power plant substation to the water filtration plant. This line must be extended over to the vicinity of the new hospital. A new line has also recently been completed between the old power plant and the new hospital. This line will be used to energize a new transformer substation at the site of the old power plant when the new power plant is operating and the old power plant has been shut down. This new substation will enable linking the existing 4,160 volt distribution lines to the new 13.8 KV distribution system. Most of the existing distribution lines must be upgraded and approximately 25 miles of new lines should be constructed in Sokehs, Nett and Uh municipalities.

Funds requested in FY 1978 will be used to upgrade existing distribution lines and to upgrade two (2) transformer substations.

Additional funds will be requested in FY 1978 to provide 25 miles of new distribution lines in Sokehs, Nett and Uh municipalities.

h. Electrical System, Kusaie - $685,000

The existing power plant is of a temporary nature in an undesirable location and building. The immediate area is very congested and the noise is very objectionable due to very close proximity of the District Public Works Office and other nearby facilities. A new power plant is currently under construction by station forces. This power plant will initially serve the Lelu and Tofol areas and later will serve additional loads as far away as Malem and the proposed new harbor/airport complex. This new power plant is being constructed in Tofol.

Funds requested in FY 1978 will be used to complete the Tofol power plant and provide a new substation. Additional electrical distribution lines will also be provided.

Additional funds will be requested in FY 1980 to complete distribution to the new dock and harbor complex and to modify the existing Lelu island electrical system to service the new District center.

11. Maintenance and Rehabilitation of Facilities/Equipment - $205,000

Funds requested in FY 1978 will be used for:

a.	Emergency and Minor Construction	$ 150,000
b.	Construction materials and equipment	55,000
	TOTAL:	$ 205,000

a. Emergency and Minor Construction - $150,000

Funds are requested in this category to provide for unforeseen minor projects, and projects which arise as a result of some emergency. The physical plant of the Trust Territory faces an always-present threat of damage from accidents and destructive natural forces. Government buildings, facilities and utilities in all districts are threatened by frequent tropical storms and typhoons. With the Government's physical plant growing each year, the likelihood of unforeseen emergencies will also grow. Operational budgets cannot provide for such emergencies. The funds requested will accommodate some of the many requests for emergency and minor work.

b. Construction materials - $55,000

Funds are needed for procurement of maintenance materials necessary to support the expanding physical plant. The power and water systems, more complex than in the past, now require spare parts/components to assure reliability. Projects have been completed but are not useable because of lack of materials to make final connection. Water systems waste precious water due to leaking lines that require materials to effect permanent repairs to prevent the waste. Meters for fuel and water, which would allow better control of our resources, are not installed due to lack of funds.

Better utilization of manpower, equipment and facilities, and an overall operational savings can be expected if the funds requested are made available. Labor has been budgeted elsewhere; however, additional materials/supplies are urgently required to support our mission.

Trust Territory of the Pacific Islands

12. General Support Facilities - $92,000

Water Resources Study. A cooperative agreement and program between the Trust Territory Government and the U. S. Geological Survey was established in later 1967. By May, 1971, there were 71 gauging stations and data collecting stations operating on the seven islands where the program was being carried on.

Since the program was initiated, the U. S. Geological Survey has analyzed and recorded the data, obtained and provided the Trust Territory with valuable technical and professional assistance in making ground water studies and evaluations of many islands for proposed development of future water supplies and systems to serve and benefit the Micronesians. Direct assistance has also been provided in the location and development of deep and shallow wells on various islands.

Construction of dams, stream diversion structures, development of wells, pipe lines, and distribution systems costing substantial amounts are of little value if the streams have no flow or are dry during drought periods. Similarly, it is of little value to drill and develop wells or otherwise develop ground water at any selected site if the geological and hydrological conditions preclude existence of a significant supply of ground water within the sites. It would be grossly more expensive, and the risk of failure greater, to develop any type of water supply without base data which this cooperative agreement with the U. S. Geological Survey provides.

Funds requested in FY 1978 will make it possible to continue the Water Resources Study program so data and records can be gathered and compiled until at least 1980, when the program will have been in effect for 10 years and the information gathered and recorded will be infinitely more valuable for the development of water supply resources in Micronesia.

13. Construction Support Facilities - $-0-

Trust Territory of the Pacific Islands

Program and Financing
(in thousands of dollars)

	1976 Actual	TQ Actual	1977 Est.	1978 Est.
Program by Activities:				
1. High Commissioner's Office.....	504	123	511	506
2. Judiciary.....	400	114	863	826
3. Federal Comptroller's Office.....	205	58	263	446
4. Grants.....	78,714	21,237	80,121	71,332
5. Economic Development Loan Fund...	1,000	---	---	---
6. Northern Marianas Transition.....	1	528	631	---
7. Government of the Northern Marianas Islands grants.....	---	---	13,488	13,515
8. Bikini ex-gratia payments.....	3,000	---	---	---
Total program cost funded.....	83,824	22,060	95,877	86,625
Change in selected resources (undelivered orders).....	-15,876	6,928	---	---
10.00 Total Obligations.....	67,948	28,988	95,877	86,625
Financing:				
21.00 Unobligated balance available, start of period.....	-8,980	-30,470	-16,620	---
24.00 Unobligated balance available, end of period.....	30,470	16,620	---	---
Budget Authority.....	89,438	15,138	79,257	86,625
Budget Authority:				
40.00 Budget Authority (Appropriation).....	89,438	15,138	79,077	86,625
44.20 Supplemental now requested for civilian pay raises.....	---	---	180	
Relation of obligations to outlays				
71.00 Obligations incurred, net.....	67,948	28,988	95,877	86,625
72.00 Obligated balance, start of period.....	29,070	10,629	18,369	32,071
74.00 Obligated balance, end of period	-10,629	-18,369	-32,071	-38,159
90.00 Outlays, excluding pay raise supplemental.....	86,389	21,248	82,000	80,532
91.20 Outlays from civilian pay raise supplemental.....	---	---	175	5

Trust Territory of the Pacific Islands

Object Classification
(in thousands of dollars)

		1976 Actual	TQ Actual	1977 Est.	1978 Est.
	Personnel Compensation:				
11.1	Permanent positions	2,508	604	2,552	2,406
11.3	Other personnel compensation	376	90	382	361
	Total personnel compensation	2,844	694	2,934	2,767
	Personnel benefits:				
12.1	Civilian	213	51	230	216
21.0	Travel and transportation of persons	160	39	150	150
22.0	Transportation of things	1	---	2	2
23.2	Rent, communication, and Utilities, Other	3	1	4	4
24.0	Printing and reproduction	8	2	8	8
25.0	Other services	204	42	180	183
26.0	Supplies and materials	41	4	14	14
31.0	Equipment	7	8	35	32
41.0	Grants, subsidies, & contributions	61,427	28,147	92,320	83,249
42.0	Insurance Claims and indemnities	3,000	---	---	---
99.0	Total Obligations	67,948	28,988	95,877	86,625

Personnel Summary

	FY 1976 Actual	FY 1977 Estimate	FY 1978 Estimate
Total number of permanent positions	148	140	109
Average paid employment	137	126	107
Average GS grade	11.12	10.86	10.76
Average GS salary	$20,985	$22,989	$23,906
Average salary of ungraded positions	$18,832	$19,819	$19,819

CONSOLIDATED SCHEDULE OF PERMANENT POSITIONS
PAID FROM FUNDS AVAILABLE TO TERRITORIAL AFFAIRS

Detail of Permanent Positions

	1976 Actual	1977 Estimate	1978 Estimate
GS-18	2	2	2
GS-17	1	1	1
GS-16	2	2	2
GS-15	16	15	14
GS-14	18	16	14
GS-13	27	25	20
GS-12	45	45	40
GS-11	43	40	33
GS-10	9	6	4
GS-9	14	13	10
GS-8	4	4	1
GS-7	12	15	11
GS-6	8	7	7
GS-5	9	12	9
GS-4	2	2	4
GS-3	3	2	2
Sub-Total	215	207	174
Ungraded	10	10	10
Total Permanent Positions	225	217	184
Unfilled positions, June 30	-40	-30	-10
Total Permanent Employment, end of year	185	187	174

TTPI 94

83-561 O - 77 - 81

Trust Territory of the Pacific Islands

For expenses necessary for the Department of the Interior in administration of the Trust Territory of the Pacific Islands pursuant to the Trusteeship Agreement approved by joint resolution of July 18, 1947 (61 Stat. 397), and the Act of June 30, 1954 (68 Stat. 330), as amended (90 Stat. 299), including the expenses of the High Commissioner of the Trust Territory of the Pacific Islands; compensation and expenses of the Judiciary of the Trust Territory of the Pacific Islands; grants to the Trust Territory of the Pacific Islands in addition to local revenues, for support of governmental functions; [$79,077,000, to remain available until expended] *$86,625,000, to remain available until expended, of which $13,515,000 is for expenses necessary for the Department of the Interior, in administration of the Government of the Northern Mariana Islands, including direct grant support for governmental operations, capital improvement projects, and for an economic development loan fund in addition to current local revenues for support of governmental functions: Provided,* That all financial transactions of the Trust Territory *and the government of the Northern Mariana Islands,* including such transactions of all agencies or instrumentalities established or utilized by such Trust Territory *and the government of the Northern Mariana Islands,* shall be audited by the General Accounting Office in accordance with the provisions of the Budget and Accounting Act, 1921 (42 Stat. 23), as amended, and the Accounting and Auditing Act of 1950 (64 Stat. 834); *Provided further,* That the government of the Trust Territory of the Pacific Islands *and the government of the Northern Mariana Islands* [is] *are* authorized to make purchases through the General Services Administration: *Provided further,* That appropriations available for the administration of the Trust Territory of the Pacific Islands *and the government of the Northern Mariana Islands,* may be expended for the purchase, charter, maintenance, and operation of surface vessels for official purposes and for commercial transportation purposes found by the Secretary to be necessary in carrying out the provisions of article (6)2 of the Trusteeship Agreement approved by Congress. *(Executive Order No. 11021, the Department of the Interior and Related Agencies Appropriation Act, 1977; additional authorizing legislation to be proposed.)*

Trust Territory of the Pacific Islands

(Proposed for later transmittal, proposed legislation)

Program and Financing (in thousands of dollars)

Identification code 14-0414-2-1-806	1976 Act.	TQ Act.	1977 Est.	1978 Est.
Program by activities:				
1. Enewetak rehabilitation	---	---	---	8,400
2. Rongelap and Utirik compensation	---	---	---	1,058
10.00 Total program (costs--obligations)	---	---	---	9,458
Financing:				
40.00 Budget authority (proposed for later transmittal)	---	---	---	9,458
Relation of obligations to outlays:				
71.00 Obligations incurred, net	---	---	---	9,458
74.00 Obligated balance, end of period	---	---	---	-5,458
90.00 Outlays	---	---	---	4,000

1. Legislation will be proposed to provide grants for the rehabilitation of Enewetak Atoll, in the Marshall Islands. These funds are to be used for construction of housing and public facilities so that the former inhabitants, who were removed in 1948 for the atomic weapons testing program, can be resettled. A supplemental request for 1977 of $4.0 million will be requested, with the balance of the proposed authorization to be sought in 1978.

2. Legislation will be proposed to provide ex gratia compensation for the residents of Rongelap and Utirik Atolls in the Marshall Islands who have been affected by thyroid abnormalities, including cancer due to radioactive fallout as a result of thermonuclear testing in March of 1954.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

NORTHERN MARIANAS GOVERNMENT

Northern Mariana Islands Government

Opening Statement

Funds requested herein are those funds for the governmental operations of the Northern Mariana Islands only. However the total funding request in the appropriation language as contained in the President's FY-1978 budget is for both the Trust Territory Government and the Northern Mariana Islands Government. Total funding request for the Northern Mariana Islands is $13,515,000 and increase of $2,525,000 over funds available in FY 1977.

Status of Authorization

The FY 1978 Trust Territory of the Pacific Islands authorization request requires new authorization for both the Trust Territory Government and the Northern Mariana Islands Government. The Northern Mariana Islands Government needs authorization until such time as the funding provisions of the Covenant, P.L. 94-241 have been met. It is estimated that this will happen about January 1978, At that time the balance of funds authorized previously will now shift to the new authorization. It should be noted that also at that time the Northern Mariana Islands Government will be allowed to request in FY 1978 an additional $2,614,000 under the new authorization.

Note

For information purposes, pages 2 through 6 are charts and tables showing the entire Trust Territory of the Pacific Islands appropriation which also includes the Northern Mariana Islands Government.

TRUST TERRITORY OF THE PACIFIC ISLANDS

Total Appropriation

Appropriation, 1976	$77,196,000	
Pay Cost Supplemental	108,000	
Second Supplemental Appropriation	9,134,000	
Total Appropriation, 1976		$86,438,000
Appropriation, 1977		$79,077,000
Pay Cost Supplemental		180,000
Total available		79,257,000 1/

Summary of Increase/Decrease, 1978

	Base for 1978	Increase 1978
High Commissioner's Office	$508,000	-2,000
Judiciary:		
Decrease of funding due to the transfer of functions to Northern Marianas Government	862,000	-36,000
Federal Comptroller's Office		
To provide for expanded program as authorized and required by P.L. 93-111	260,000	+186,000
Grants:		
The net increase of $4,695,000 consists of increases of $494,000 for operations, and $4,201,000 for construction	66,637,000	+4,695,000
Government of the Northern Marians Islands, Grants:		
The net increase $2,525,000 consists of increases of $2,362,000 for operations and $163,000 for construction	10,990,000	+2,525,000
Enewetak Rehabilitation:		
To provide for the rehabilitation of Enewetak Atoll in order to resettled the inhabitants removed for atomic testing	---	+8,400,000
Rongelap and Utirik Compensation:		
To provide ex-gratia compensation for residents of Rongelap and Utirik who suffered thyroid abnormalities including cancer from atomic test program	---	+1,058,000

Government of the Northern Mariana Islands:		
Additional funding provision for governmental operations once the funding requirements of the Covenant P.L. 94-255 are met	+2,614,000	
Net Increase 1978		19,440,000
Budget Estimate, 1978		98,697,000

1/ Does not include proposed supplementals of $7,844,000 for current dollar adjustment, $2,600,000 for support of radiological survey of the Northern Marshalls, and $4,000,000 for rehabilitation of Enewetak Atoll.

The following table shows for FY 1978 the breakout of requested authorizations and appropriation language as contained in the Presidents Budget.

Trust Territory Government	73,110,000
Northern Mariana Islands Government	13,515,000
Total Trust Territory of the Pacific Islands	$86,625,000
Enewetak Rehabilitation	8,400,000
Rongelap and Utirik Compensation	1,058,000
Total other request	9,458,000
Northern Mariana Islands, Assitional funding request once funding provisions of covenant are met	2,614,000
Grand Total FY-78 request	98,697,000

TRUST TERRITORY OF THE PACIFIC ISLANDS
Analysis of Enacted FY 77, Activity Change, and Funds
Transferred to Northern Mariana Islands Gov.

Activity	FY 1977 Enacted	Activity Change	Transferred To NMG	Pay Cost Supp.	Revised FY 1977
Direct Appropriation:					
1. High Commissioner's Office.	$ 500,000	$ ---	$ ---	$ + 8,000	$ 508,000
2. Judiciary	290,000	+ 565,000	---	+ 7,000	862,000
3. Federal Comptroller's Office.	250,000	---	---	+ 10,000	260,000
Total, Direct Appropriation.	1,040,000	+ 565,000	---	+ 25,000	1,630,000
Grants: (Trust Territory Government)					
4. a. Operations:					
(1) Health Services.	9,850,000	---	-1,824,800	+ 7,400	8,032,600
(2) Education.	14,700,000	---	-2,151,300	+ 12,900	12,561,600
(3) Public Affairs	1,830,000	---	117,700	+ 4,200	1,716,500
(4) Resources and Development.	6,252,000	- 380,000	- 220,400	+ 25,300	5,676,900
(5) Protection to Persons and Property .	3,095,000	- 565,000	- 27,800	+ 25,700	2,527,900
(6) Administration	6,689,000	---	- 664,300	+ 55,200	6,079,900
(7) Transportation and Communications. .	3,885,000		- 55,400	+ 5,000	3,834,600
(8) Public Works	11,068,000		-2,148,300	+ 9,300	8,929,000
(9) Development Technical Assistance . .	---	+ 380,000	---	---	380,000
Total Operations	57,369,000	- 565,000	-7,210,000	+145,000	49,739,000
b. Construction - Total	20,668,000	---	-3,770,000	---	16,898,000
Total Grants Trust Territory Government . . .	78,037,000	- 565,000	-10,980,000	+145,000	66,637,000
Total Trust Territory Government.	79,077,000	---	-10,980,000	+170,000	68,267,000
5. Northern Marianas Islands Government					
(1) Grant Operations.	---	---	+ 7,210,000	+ 10,000	7,220,000
(2) Grant Construction.	---	---	+ 3,770,000	---	3,770,000
Total Northern Mariana Islands	---	---	+10,980,000	+ 10,000	10,990,000
Grant Total Appropriation	79,077,000	---	---	+180,000	79,257,000

Rev.NMI-4

Trust Territory of the Pacific Islands

Analysis by Activity

Activity	FY 76 Obligations	FISCAL YEAR 1977 Total Appropriation	Unobligated Balances	Pay Act Costs	Amount Available
1. High Commissioner's Office.	$ 499,589	$ 500,000	$ 2,850	$ 8,000	$ 510,850
2. Judiciary	458,500	855,000	411	7,000	862,411
3. Federal Comptroller's Office. . . .	240,031	250,000	3,247	10,000	263,247
4. Grants, Trust Territory , ...	62,222,685	66,492,000	13,484,251 1/	145,000	80,121,251
5. Economic Development Loan Fund. . .	1,000,000	---	---	---	---
6. Bikini ex-gratia payments	3,000,000	---	---	---	---
7. Northern Marianas Transition. . . .	507,340	---	631,089	---	631,089
8. Northern Mariana Islands, Grants. .	---	10,980,000	2,498,357 1/	10,000	13,488,357
Total	$67,948,145	$79,077,000 2/	$16,620,205	$180,000	$95,877,205

1/ Includes Capital Improvement carryover of $13,827,115 needed to complete projects previously justified.

2/ Does not include proposed supplementals of $7,044,000 for the Trust Territory and Northern Mariana Islands Government operations, $6,962,000 for Trust Territory Government and $882,000 for Northern Mariana Islands Government.

NMI 5

TRUST TERRITORY OF THE PACIFIC ISLANDS

Summary of Increases and Decreases Without Supplementals

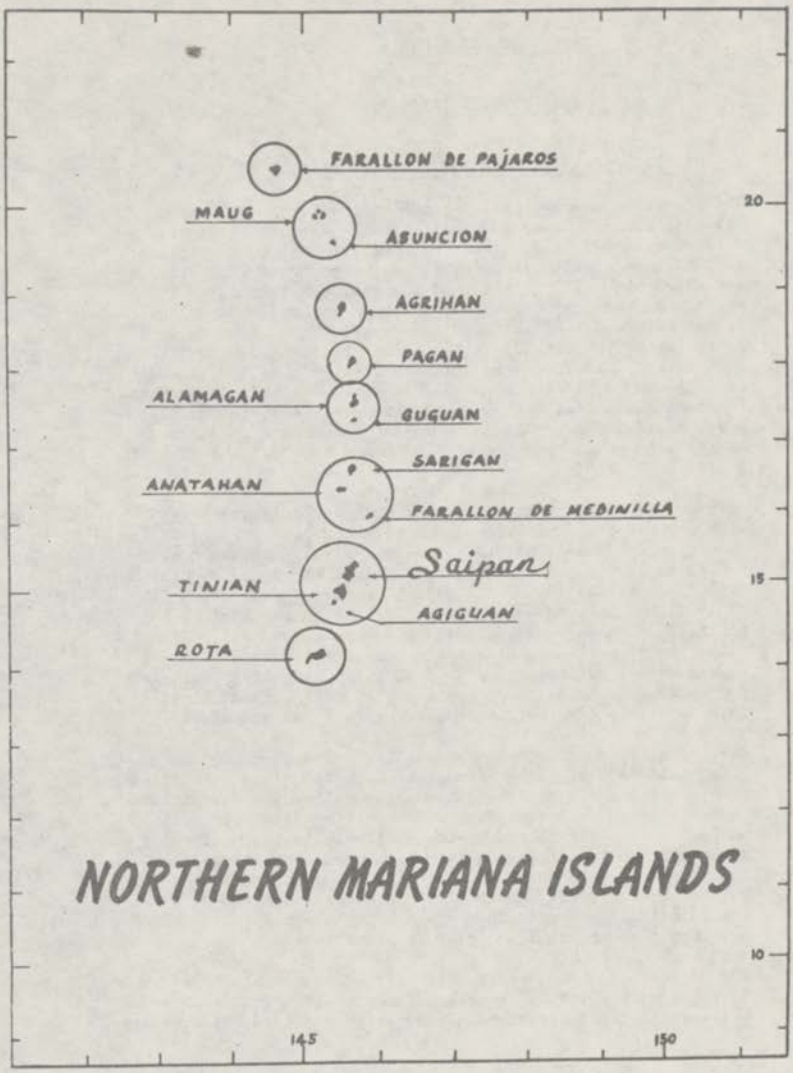
	FY-77 Enacted	Pay Act Cost	Proposed Supp.	Total	Fy-78 Estimate	Inc. (+) or Dec. (-) over FY-1977
Trust Territory Government.....	68,097,000	170,000	-	$68,267,000	73,110,000	+4,843,000
Northern Mariana Islands Government	10,980,000	10,000	-	10,990,000	13,515,000	+2,525,000
T o t a l	79,077,000	180,000	-	79,257,000	86,625,000	+7,368,000

Summary of Increases and Decreases With Supplemental & Proposed Legislation

Trust Territory Government.....	68,097,000	170,000	6,962,000 1/	$75,229,000	$73,110,000 3/	-2,119,000
Northern Mariana Islands Government	10,980,000	10,000	882,000 1/	$11,872,000	$13,515,000 3/	+1,643,000
Enewetak Rehabilitation	--	--	4,000,000 2/	4,000,000	8,400,000	+4,400,000
Rongelap & Utirik Compensation ...	--	--	--	--	1,058,000 3/	+1,058,000
Radiological Survey Northern Marshalls	--	--	2,600,000 1/	2,600,000	--	-2,600,000
Northern Mariana Islands Additional funding -	--	--	--	--	2,614,000 4/	+2,614,000
T o t a l	79,077,000	180,000	14,444,000	93,701,000	98,697,000	+4,996,000

1/ Supplemental existing legislation.
2/ Supplemental proposed legislation.
3/ Requested under proposed legislation.
4/ Requested existing legislation once provisions of authorization are met.

NMI 6


FARALLON DE PAJAROS
MAUG
ASUNCION
AGRIHAN
PAGAN
ALAMAGAN
GUGUAN
SARIGAN
ANATAHAN
FARALLON DE MEDINILLA
Saipan
TINIAN
AGIGUAN
ROTA
NORTHERN MARIANA ISLANDS
20
15
10
145
150

NMI 7

GOVERNMENT OF THE NORTHERN MARIANA ISLANDS

HIGHLIGHT STATEMENT

Fiscal Year 1978

I. GENERAL DESCRIPTION OF THE NORTHERN MARIANA ISLANDS:

The beautiful and exciting islands of the Northern Mariana Islands, consisting of 13 single islands, and one group of 3 islands (MAUG), constitute together with the U. S. Territory of GUAM, the highest slope of a massive mountain range rising six miles high off the floor of the Marianas Trench, in the ocean bed, and forms a boundary between the Philippines Sea to the West and the Pacific Ocean to the East. Running in a generally North South direction from the southern-most inhabited island of ROTA to the northern-most uninhabited island of FARALLON DE PAJAROS (URACAS), the chain of islands extends for some 338 miles, with a total land area of approximately 183.5 square miles. The northern-most inhabited island is AGRIHAN, located approximately 205 miles NORTH of the capital island of SAIPAN.

However, only six of these islands are regularly inhabited, with most of the land areas and population concentrated in the major islands of SAIPAN (45 square miles, estimated population of 13,000); ROTA (32 square miles, estimated population of 1,300); TINIAN (39 square miles, estimated population of 750); ALAMAGAN (4.32 square miles, estimated population, 48); PAGAN (18.65 square miles, estimated population, 57); ANATAHAN (12.48 square miles, sporadically populated) and AGRIHAN (18.29 square miles, estimated population, 25). The total estimated population of the Northern Marianas, at this present time, is 15,200. (This does not include transients and visitors.)

Geologically, the Northern Mariana Islands are mountainous "high islands", of either limestone formation (southern islands) or of volcanic rocks. The islands generally rise out of the sea in successive level terraces, with table of fringing reefs. SAIPAN is the only island having a sizable lagoon, extending almost the entire length of the western side of the island. There are several active volcanoes in the northern islands. Many of the presently dormant volcanoes in the north retain their conical, volcanic form. The highest mountain in SAIPAN, Mt. Togpachau, rises 1,554 feet from sea level.

The capital of the Northern Marianas is located at SAIPAN, which is the governmental and commercial center of these islands, as well as the transportation hub, offering a modern, first-class

airport, the SAIPAN INTERNATIONAL AIRPORT, capable of handling 747 Jumbo Jet aircraft, and is a major stop for the Trust Territory's Air Micronesia 727 Jet Aircraft, as well as frequent "Charter Flights" from the Orient (primarily Japan and Okinawa) and from Guam. SAIPAN, and to a lesser degree, TINIAN and ROTA, have become major tourist destinations for visitors, primarily from Japan, Guam, other areas of the United States and other parts of the world. Both ROTA and TINIAN also have airfields capable of handling Jet Aircraft, while the northern inhabited island of PAGAN has a former Japanese airstrip, which can handle small aircraft.

Although still woefully inadequate, especially in relationship to a growing tourism and mercantile upward spiral, the infrastructures and facilities of the Northern Marianas, especially at SAIPAN, are far advanced, compared to other islands of MICRONESIA. Electrification is available throughout most of the inhabited areas in the 3 major islands of SAIPAN, ROTA and TINIAN and there are many miles of all-weather paved roads. Water although still inadequate, is provided to a large portion of the inhabitants and a modern sewage system is being developed, with customer tie-ins still a major problem. There are two radio stations, one operated by the Government of the Northern Marianas and one by a commercial interest, located at Saipan, but generally receivable at ROTA and TINIAN, and portions of the Northern Islands. A commercial Television Station and a commercial Cable-TV station also operate at Saipan, with limited reception of the Television Station output at TINIAN, which is located only 3 miles from SAIPAN.

Primarily as a result of the burgeoning tourist trade, there are 4 major luxury-class hotels in Saipan, as well as several smaller hotels, for a total of approximately 630 rooms available. At ROTA, a major, luxury-class hotel is presently under construction, and will initially add 50 rooms to first-class accommodations availability. Another luxury-level hotel is in early building stages at Saipan. A major professional building, funded by the Government of NAURU, with offices, shopping center and revolving restaurant is now under construction.

At the present time, the Headquarters of the Trust Territory of the Pacific Islands is still located in SAIPAN, as are the congressional halls, staffs and headquarters of the Congress of Micronesia. As a result, the Trust Territory Government Headquarters and Congress of Micronesia, still contribute materially to the volume and level of activities and economic development in the Northern Marianas. This includes location and activities of the Territory-wide Central Supply Depot and the Communications Center at SAIPAN,

operated and administered by the Trust Territory Government. Although the Trust Territory Government has made plans to relocate TT Headquarters and the Congress of Micronesia, in a District of the Trust Territory, no definite timetable for this has, as yet, been finalized.

II. HISTORY OF THE NORTHERN MARIANA ISLANDS:

On March 6, 1521, the Portuguese Navigator Ferdinand Magellan is said to have first sighted the "Mariana Islands" on his westward journey across the Pacific, during his circumnavigation of the world. In anger over taking of property from his ship by the natives, Magellan initially placed the unflattering name of "La Islas de los Ladrones" (The Islands of the Thieves), upon these islands.

Subsequent to Magellan's arrival and departure from these islands, Spanish Missionaries arrived, and the islands were named "Marianas", in honor of Queen Maria Anna, Widow of King Philip of Spain and patroness of the first missionaries. In 1565, a Spaniard, Don Legazpi, formally proclaimed that the Mariana Islands were Spanish Territory. However, for a century after Don Legazpi's visit, Spain made no effort to colonize the islands, mainly utilizing the islands as a watering and provisioning place, on their route from South America to the Philippines.

In 1668, Father Luis de San Vitores of Spain, established the first mission to house Spaniards in these islands, and the conversion of the indigenous population to Christianity (Catholicism) began. This was a period of continuous revolt by the indigenous against the Spaniards, and finally resulted in almost all of the indigenous population (referred to as Chamorros) being banished to GUAM. Only a few inhabitants escaped this banishment by hiding in caves in ROTA. From GUAM, some of the exiled Chamorros from the Northern Marianas moved and settled in YAP and PALAU. In the middle of the 19th Century, the Spaniards allowed some of the Chamorros to return to SAIPAN. Prior to this time around 1815, some of the people from the Eastern and Western Caroline Islands (presently Truk and Yap Districts) were allowed to settle in SAIPAN, when their home islands were devastated by a typhoon. (The descendents of these migrants from the Carolines, presently residing in the Northern Mariana Islands are known as "Carolinians", and comprise an important segment of the current population, albeit a minority group.)

In 1898, at the end of the Spanish-American War, the United States took possession by virtue of the Treaty of Paris, of the southern-most of the Marianas Islands chain, which is

presently the American Territory of GUAM (GUAHAN). For some strange and unfathomable reason, the U. S. did not take possession of those islands North of Guam, now known as the Northern Mariana Islands.

In 1899, Spain sold these Northern Mariana Islands (exclusive of Guam) to Germany. Germany greatly expanded the copra (dried coconut) planting and production, during their period, as well as making considerable improvements in health and education, and in various infrastructures, such as road improvements. The "German Period" was a relatively short one, as Japan seized the Northern Marianas in 1914 from Germany, as a result of World War I. In 1920, the League of Nations formalized this war-time seizure, by placing the Northern Marianas (exclusive of Guam), as well as the Carolines and the Marshalls, under a League of Nations Mandate to Japan.

The "Japanese Period", which lasted until 1944, was one of extensive civil, military and commercial development in the Northern Marianas, and much of the still existing and utilized infrastructures, such as roads, docks, water systems are from the "Japanese" era. There was also significant military fortification and infrastructure build-ups. During the Japanese era, the Japanese civil population numbered around 30,000, mostly concentrated in the well-developed "city" of Garapan, and in the sugar and other processing areas of Chalan Kanoa and Susupe. The Japanese military population, which was very small pre-World War II, was built up to around 80,000 troops by the time of the defeat of the Japanese forces at Saipan in 1944. The indigenous population was around 4,000, located at SAIPAN and ROTA. There were no significant number of indigenous at TINIAN. The local personnel were utilized as teachers, in "native schools" in the hospitals, in shops, in police work, and the largest majority, on farms. Education was available for the indigenous, in "native schools" up to the 5th Grade level. The principal crops, the product of most of which were exported to Japan, were sugar, tapioca, coffee, papaya-products, coconuts and pineapple. Phosphates and manganese were also mined and processed.

On June 15, 1944, U. S. military forces invaded the Northern Marianas, with some of the bloodiest Pacific battles of World War II taking place at SAIPAN and TINIAN. ROTA was by-passed by American landing forces, but severly bombed, both from the air and by War ships. The blood-letting resulted in approximately 4,000 U. S. deaths, and over 50,000 Japanese killed, with only a relatively small number of survivors, in both the Japanese military and civil population. It is also estimated that around 300-400 indigenous perished, during the War. These horrors culminated in mass suicide leaps of many of the Japanese military and civil populace from "Suicide Cliff" and "Banzai Cliff" in the northern (Marpi) area of SAIPAN, and from

83-561 O - 77 - 82

precipices in TINIAN. To this day, Government of Japan-sponsored Missions still return to the Marianas to gather the bones of the Japanese from jungles, caves and beaches, for repatriation to Japan.

On July 9, 1944, the Japanese forces surrendered to the Americans, and the "American-era" can be said to have begun. On August 6, 1945, a U. S. B-29 Bomber Aircraft, the ENOLA GAY, took off from TINIAN, and dropped an Atomic Bomb at HIROSHIMA (and subsequently, a second craft dropped one at NAGASAKI), in Japan, and in indescribably horrible destruction and suffering, ushered in the "atomic" era. Shortly thereafter, on August 15, 1945, the Emperor of Japan surrendered to the Allied Forces, and World War II ended.

Immediately upon military securing of the Northern Marianas, in 1944, a U. S. Military Government was instituted, until July 18, 1947, when the Security Council of the United Nations and the United States of America entered a Trusteeship Agreement, covering all of the former Japanese Mandated Islands, including the Northern Marianas, the Eastern and Western Carolines and the Marshall Islands. This Trusteeship Agreement mandated that the U. S. Government would administer these islands, in trusteeship. The President of the United States delegated administration to the U. S. Secretary of the Interior. During this time (1946), foreign nationals (Japanese) were repatriated from the Marianas (except for a few allowed to remain, mainly due to marriage into local families) and "migrants" entered the Marianas mainly from Yap and Palau, primarily of Chamorro ancestry, who had been forced out by the aforementioned "Spanish dispersal". The returnees from Yap, around 216 persons mostly settled in TINIAN.

From July 18, 1947 (the signing of the Trusteeship Agreement) until 1950, the U. S. Navy administered the trusteeship throughout Micronesia (including the Northern Marianas) on an "interim" basis. In 1950, U. S. President Harry Truman delegated administration of the Trust Territory to the U. S. Secretary of Interior. However, the "Interior" period for the Northern Marianas was relatively short-lived, as the U. S. Navy re-assumed administration in 1952, mainly because of military-needs brought about by the Korean War. ROTA island, however, during this resumption of Naval administration, remained with the basis Trust Territory Government (Interior), as a separate District.

In July 1962, the trusteeship administration of the Northern Marianas was returned to the U. S. Department of the Interior. ROTA, which had remained with the Interior Department administration, with the rest of the Trust Territory, was re-integrated with the rest of the Northern Marianas, as a sub-

District Center. District Center for the Northern Marianas was established at SAIPAN. The Headquarters of the Trust Territory Government, which had been located in GUAM, was transferred to SAIPAN, at this time also, occupying what had previously been U. S. military facilities in SAIPAN. The Northern Marianas remained an integrated part of the "Trust Territory of the Pacific Islands", administered by the High Commissioner, until April 1, 1976, when the Northern Marianas separated from the rest of the Trust Territory, and became "separately administered", moving towards an eventual U. S. Commonwealth Status, anticipated for around 1981.

III. THE MOVEMENT OF THE NORTHERN MARIANA ISLANDS TO AN EVENTUAL U. S. COMMONWEALTH STATUS:

On April 11, 1972, the Marianas Delegation to the Joint Committee on Future Status of the Congress of Micronesia requested "separate political status" negotiations and discussions with the United States Government, for the ultimate political and administrative destinies of the Northern Marianas. This was a culmination of many efforts by the people of the Marianas for closer political affiliation with the U. S., going back as far as 1950. "Separate" referred to discussion of a political status for the Northern Marianas not tied in with the political negotiations of the rest of Micronesia. The Northern Marianas leadership indicated that they wanted a political status much closer tied to the American Nation than had been indicated as being desired by the rest of Micronesia.

The U. S. Government and the Congress of Micronesia responded favorably, and President Richard M. Nixon appointed the Honorable F. Haydn Williams as Ambassador, and the President's personal representative, in this status negotiation between the U. S. Government and the political leadership of the Northern Marianas, which was organized as the Marianas Political Status Commission (MPSC) by the Mariana Islands District Legislature in May 1972. The first round of talk between the U. S. and the MPSC was on December 13, 1972, and the second and third rounds were held in 1973. A fourth meeting took place in May 1974 and the fifth...and final..."round" took place in two parts, in December 1974 and in January 1975. This culminated in the signing of the "Covenant to establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America", by Ambassador F. Haydn Williams for the United States, and by the members of the Marianas Political Status Commission, for the Northern Mariana Islands, on February 15, 1975. The two delegations also approved a special report of a joint ad hoc group on transition, which recommended a number of specific plans and activities during the early phases of transition. On February 20, 1975, the Marianas Legislature unanimously approved the Covenant.

On June 17, 1975, a Plebiscite of all the qualified citizens and residents of the Northern Mariana Islands was held to ratify the

Covenant. Ninety-five percent of the registered voters cast their ballots, and an overwhelming 78.8 percent supported the Covenant, although there was some opposition voiced. The conduct of the Plebiscite was observed by United Nations on-site observers, and the administration of the Plebiscite was by Plebiscite Commissioner, Mr. Erwin D. Canham, Editor Emeritus of the Christian Science Monitor.

On July 1, 1975, the President of the United States transmitted a proposed Joint Resolution (House Joint Resolution No. 549) to the U. S. Senate and House of Representative, which would provide Congressional approval for the Covenant. The House of Representative approved the Resolution on July 21, 1975. On February 24, 1976, the U. S. Senate approved the Resolution. President Gerald Ford signed the Joint Resolution on March 24, 1976 as Public Law 94-241, and the historic Covenant to establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States became public law of the United States.

Also on March 24, 1976, the U. S. Secretary of the Interior (actually the Honorable Kent Frizzell, Acting Secretary of the Interior) signed and issued a Proclamation which established "...in and for the Mariana Islands District of the Trust Territory of the Pacific Islands, a new administration to take effect on April 1, 1976. The Mariana Islands District will hereinafter be referred to as the 'Northern Mariana Islands.'"

In addition, Secretarial Order No. 2989, dated March 24, 1976 was issued by the Acting Secretary of Interior, which stated its purpose to be: "...to delimit the extent and nature of the authority of the Government of the Mariana Islands District of the Trust Territory of the Pacific Islands (hereinafter called "Government of the Northern Mariana Islands"), as it will be exercised under the jurisdiction of the Secretary of the Interior... pursuant to Executive Order No. 11021 of May 7, 1962, and to prescribe the manner in which the relationships of the Government of the Northern Mariana Islands shall be established and maintained with the Congress, the Department of the Interior and other Federal agencies, and with foreign governments and international bodies..."

IV. THE SEPARATE ADMINISTRATION AND THE TRANSITION GOVERNMENT OF THE NORTHERN MARIANA ISLANDS:

In accordance with the aforementioned Proclamation and Secretarial Order of the Acting Secretary of the Interior of March 24, 1976, the Government of the Northern Mariana Islands was administratively

separated from the rest of the Trust Territory, effective April 1, 1976. As further stipulated in the Covenant, and in the Secretarial Proclamation, the U. S. Secretary of Interior, appointed the Honorable Erwin D. Canham, former Editor of the Christian Science Monitor, and the U. S. Commissioner who had conducted the Marianas Commonwealth Plebiscite, as the Resident Commissioner for the Northern Marianas, effective April 16, 1976. As Resident Commissioner, Mr. Canham is the Chief Executive for the Northern Mariana Islands and reports to the U. S. Secretary of Interior, through the Director of Territorial Affairs of the Department of the Interior. Primary legislative authority has been vested in the former "Mariana Islands District Legislature", now termed the "Northern Mariana Islands Legislature". The High Court of the Trust Territory will retain judicial authority for the Northern Mariana Islands until a judiciary is established under the terms of the Covenant. The High Commissioner of the Trust Territory and the Congress of Micronesia relinquished all authorities and responsibilities to the Resident Commissioner and to the Northern Mariana Islands Legislature, respectively, effective with the separation of April 1, 1976.

The Proclamation of the Secretary of Interior further stipulated that "relationship between the Government of the Trust Territory and the Government of the Northern Mariana Islands will be set forth in agreements between the High Commissioner of the Trust Territory and the Resident Commissioner." This is particularly pertinent during the early transitional stages of the new Northern Marianas Government, prior to attainment of initially, a "Constitutional Government phase" and ultimately, a U. S. Commonwealth status.

The breaking-off of the new Northern Marianas Government from the rest of the Trust Territory was in "mid-stream", so to speak, occurring on April 1, 1976. This is the beginning of the Fourth Quarter of Fiscal Year 1976. It meant that much of the administrative machinery of government of the Northern Marianas was still closely interwoven with the Trust Territory Government. This was particularly true in such areas as financial management, budgeting, personnel management, procurement, etc. Several areas were directly managed and funded at the Headquarters level, although providing service to the Northern Marianas, such as Communications, Central Equipment and Automotive maintenance and repairs, Public Defender, Land Commission, etc.

In recognition that separation of the Northern Marianas would create many requirements and problems, an "Ad Hoc Committee for Contingency Planning for the Separation of the Northern Mariana Islands" was created by the U. S. Secretary of Interior on April 21, 1975, chaired by Trust Territory Deputy High Commissioner Peter T. Coleman. The Trust Territory High Commissioner confirmed and promulgated the existence and functions of this "Ad Hoc Committee", in his memo of May 1, 1975, entitled "Ad Hoc Committee for Administration Contingency Planning for the Marianas Separation".

This Ad Hoc Committee, staffed by representatives of Trust Territory Headquarters, the Marianas District and the Marianas Political Status Commission, devoted itself to drafting of the Amended Secretarial Order to set forth the new Government of the Northern Mariana Islands, and to a "Memorandum of Understanding". This document, in the main, would spell out the agreements relative to continuing support of the new Northern Marianas Government during the early transitional stages, by the Trust Territory Government; mechanics and timetables of separation of functions and funding between the two Governments; joint tenancy and usages agreements; delineation of authorities and responsibilities of the two Governments during joint tenancy in the Marianas, etc. "A Report and Recommendation" was submitted by the Ad Hoc Committee to the Secretary of Interior on September 5, 1975, and copies provided to others concerned.

Basically, a "status quo" was retained, relative to the technical aspects of administration of the new Northern Marianas Government for the remainder of Fiscal Year 1976 (i.e., up to June 30, 1976), particularly in areas such as financial management, budgeting, procurement, etc.. This "status quo" meant that much of the technical aspects continued to be actively performed or directly supervised for the new Northern Marianas Government, by Trust Territory Headquarters. However, authority as Chief Executive was firmly lodged with the Resident Commissioner, and legislative authority fully vested in the Northern Mariana Legislature, immediately upon Separation on April 1, 1976. The Amended Secretarial Order, (Secretarial Order No. 2989, dated March 24, 1976) governing administration of the Northern Mariana Islands, as well as the Trust Territory Government, took effect immediately on April 1, 1976.

V. FINANCING AND BUDGETING:

The budgeting and funds allocation, management and accountability for the Northern Marianas, for the remainder of Fiscal Year 1976 (i.e., from the April 1 separation until June 30, 1976)

remained within the general structure and authorizations of the Appropriation of the Trust Territory of the Pacific Islands, and was accordingly administered. This also is holding true for the so-called Transitional Budget Period (or "Fifth Quarter"), (July 1 - September 30, 1976) which came about because of the change in the U. S. Fiscal Year period to run from October 1, 1976 to September 30, 1977. As with the normal Fourth Quarter of Fiscal Year 1976 (April 1 - June 30), the budget allocations for the Northern Marianas for the "Transitional Quarter" (July 1 - September 30, 1976) is within the general authorization, structure and allocations of the Appropriation of the Trust Territory of the Pacific Islands.

Although autonomy has been attained in many programs and operational areas of the Government of the Northern Marianas, the "separation" has not yet been fully realized in the areas such as budget controls, finance and accounting, certain aspects of personnel and supply management, as well as in certain other areas of management too closely intertwined and commingled with Trust Territory Headquarters administration and funding for ready separation. An Administrative "target date" of October 1, 1976, i.e., the beginning of Fiscal Year 1977, has been set for the full assumption of budgetary, accounting and fiscal management by the Government of the Northern Mariana Islands. The "Memorandum of Understanding" as to administrative and governmental relationship and agreements between the Trust Territory Government and the Government of the Northern Marianas will be finalized and duly adopted at an early date.

Although Fiscal Year 1977, funds beginning October 1, 1977, will be fully and totally administered by the Government of the Northern Mariana Islands, these funds were initially submitted as a component part of the overall Budget Requests of the Government of the Trust Territory. For this reason, it may require funding adjustments between the Trust Territory Government and the Government of the Northern Mariana Islands, as well as some internal restructuring. These necessary "adjustments" will be documented, to the maximum degree foreseeable and possible, in the Memorandum of Understanding between the TT Government and the Government of the Northern Mariana Islands. As opposed to Fiscal Year 1976 and the Transitional Quarter, where the Northern Marianas allocation, of necessity, funneled through the Trust Territory Government, it has been determined that the Northern Marianas allocation, for Fiscal Year 1977, will come directly to the Resident Commissioner of the Northern Mariana Islands from the U. S. Department of the Interior, through the Director of Territorial Affairs.

As a result of agreements reached by the U. S. and the Marianas Political Status Commission during the final phases of the status negotiations, the U. S. Congress appropriated $1.5 million to pay for the costs of specified studies and activities judged essential to a successful and timely transition to self-government under the terms of the Covenant. This fund was made available in the FY 1976 Supplemental Budget for the Trust Territory. This appropriation was based upon an analysis of special planning requirements and specified transitional activities, such as the holding of a Constitutional Convention, which the U. S. Executive Branch and political leaders of the Northern Mariana Islands justified before interested and responsible Committees of the U. S. Congress.

The approved transition program is administered by a small staff of experts in the Office of Transition Studies and Planning (OTSP), who work under the direct supervision of a Director and Deputy Director who were selected by and who report to a Joint Commission composed of five U. S. and Marianas officials.

The program itself is composed of several major categories of studies and activities, plus funds set aside for administration. The major categories are:

(1) socioeconomic studies and planning, $285,000; (2) physical planning, $225,000; (3) transition activities, e.g. election of the new government, $125,000; (4) studies on government organization plus research and studies and staff support of the Constitutional Convention; research of U. S. federal programs and services for which the new Commonwealth will be eligible, $275,000 and (5) the work of the OTSP staff and related administrative expenses, including a special account of $42,000 to fund a joint audit of TT/Marianas assets, $590,000. These amounts were not intended to cover all of the costs of transition to full self-government. They were voted by the U. S. Congress to cover the estimated costs of the planning and activities which the two negotiating groups were able in 1975 to identify as especially important to the early conclusion of Phase I of the transition, i.e. providing to the new Government of the Northern Mariana Islands a comprehensive and well integrated set of plans and legislative proposals deemed necessary or appropriate to the attainment of the principal terms of the Covenant.

VI. STRUCTURING AND CONCEPTS OF THE FISCAL YEAR 1978 BUDGET ESTIMATES AND SUBMITTAL:

This Fiscal Year 1978 Budget Estimates is predicated on the following basic prepositions:

1. That the Government of the Northern Marianas would make its Budget Estimates and submittal separately and directly to the Secretary of the Interior (through the Director of Territorial Affairs), beginning with Fiscal Year 1978, and not through or as an integrated part of the Trust Territory Government Budget Estimates.

2. That the funding level of the FY 1978 Budget Estimates would be as stipulated in the "Covenant to establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America," P.L. 94-241. This covenanted "funding assistance," by the United States Government would, in effect, be the U.S. Grants appropriation to the Government of the Northern Mariana Islands, in the total amount of $14 million, stated in constant 1975 dollars, as provided in Article VII, Section 702, of the Covenant (90 Stat. 272). This "constant 1975" dollar is subject to upwards revision, as a result of the Gross National Products Implicit Price Deflator Index formula and method of Budget Allowance calculations.

3. The effective date of the above funding provisions as stated in the Covenant Article X, Section 1003(b) (90 Stat. 277), will become effective on a date to be determined and proclaimed by the President of the United States which will be not more than 180 days after this Covenant and the Constitution of the Northern Mariana Islands have both been approved. It is estimated that the approval provisions pertaining to the Constitution will take place by January 1978.

Until that time, authorization is needed under the Trust Territory of the Pacific Islands authorization. Section 704(b) (90 Stat. 273) states "Approval of this Covenant (including the constitution) by the United States will constitute an authorization for the appropriation of a pro-rata share of the funds provided under Section 702 for the period between the effective date of this section and the beginning of the next succeeding fiscal year."

The budget estimate for FY 1978 is $2,525,000 more than the $10,990,000 available to the Marianas from the $79,257,000 FY 1977 Appropriation for the Trust Territory of the Pacific Islands (account 14x0414).

Government of the Northern Mariana Islands

The following table indicates the composition of that increase (in thousands of dollars):

	FY 1977	FY 1978	CHANGE AMOUNT	CHANGE PERCENT
GRANTS:				
(a) Operations.....	$ 7,220	$ 9,582	$+2,362	+ 32.7
(b) Capital Improvements..	3,770	3,933	+ 163	+ 4.3
Sub-Total	$10,990	$13,515	$+2,525	+ 23.0
(c) Later funding request.	---	2,614	+2,614	+100.0
Total Grants	$10,990	$16,129	$+5,139	+ 46.8

(a) GRANT OPERATIONS:

This portion of the account supports the major program activities of the Government of the Northern Mariana Islands which includes: Office of the Resident Commissioner; Public Defender, Federal Comptroller (TTPI/GUAM/GNMI), Typhoon Disaster Relief Fund, Health Services, Education, Public Affairs, Resources and Development, Office of the Attorney General, General Administrations and Public Works.

The increase of $2,362,000 proposed in FY 1978 in these program costs is to provide funds for the transfer of those Marianas functions formerly funded at the Trust Territory Headquarters level and to provide additional funds for the anticipated restructuring, improvement, and upgrading of the existing public services to the desired level of operation expected under the Constitutional Government.

(b) GRANT CAPITAL IMPROVEMENT PROGRAMS:

With regard to the $163,000 increase requested for FY 1978 funding for the Capital Improvement Programs consists of: $530,000 to complete the hospital major renovation project partially funded in FY 1976, and $630,000, for the needed additional Elementary Classrooms due to increase in enrollment and to relocate the High School in Rota to a new location. These increases have been partially off-set by reduced funding for Power and Sewer primarily to accommodate the two urgently needed programs stated above.

(c) FUNDING REQUEST - LATER TRANSMITTAL

The $2,614,000 will be sought in an additional request once the funding provisions of the Covenant as previously mentioned are met. Most of this funding will be for the Economic Development Loan Fund as provided in the Covenant with the balance being used for the Northern Mariana Judiciary, once set up, and for some additional operations, and construction funding.

In addition to direct grant assistance, the Covenant stipulates that the Northern Mariana Islands will be eligible for the full range of federal programs and services available to Guam and to the citizens of other territories of the United States. This eligibility, in many cases, probably will not take place until full Commonwealth Status (and U.S. citizenship or U.S. National status conferred on the citizens of the Northern Marianas) has been attained, estimated to take place in 1981.

Prior to the attainment of full U.S. Commonwealth Status, the Northern Marianas will enter a "Constitutional Government" stage, with an elected Chief Executive and domestic government set forth in a Constitution of the Northern Mariana Islands. The Constitutional Convention was held in November and December 1976. The proposed Commonwealth Constitution must now be approved by the U.S. Government as well as by 60% of those voting in the Marianas referendum. Following, approval, the new chief executive or Governor of the Northern Mariana Islands will be elected and the "Constitutional Government" phase, will begin. As previously stated it appears that this will be January 1978.

Sources of funding for the Government of the Northern Marianas in FY 1976, prior to its separation from the rest of the Trust Territory on April 1, 1976 was, as set forth in the "Budget Estimates", Fiscal Year Ending September 30, 1977, "Financing", for the Trust Territory of the Pacific Islands. In

the main, these were: (1) Annual appropriation by the Administering Authority, i.e., the U. S. Government; (2) Program grants provided by a number of Federal agencies to further certain Federal programs in the Trust Territory; (3) Tax revenues levied by the Congress of Micronesia and the District Legislature; (4) Reimbursement earned by the Trust Territory Government and the Mariana District such as utilities income, certain medical fees, etc.; (5) Small grants from other international organizations to further specific projects.

Even with the separation of the Northern Marianas of April 1, 1976, as has been previously noted, the Government of the Northern Marianas continued to receive for the balance of FY 1976 and for the Transition Quarter, the predetermined, allocations of U. S. Government Grants (Item 1) and of on-going Federal program funds, which had already been earmarked for the Marianas District and/or were incorporated in Trust Territory program requests, inclusive of the Marianas. (See Item 2). These were made available to the new Government of the Northern Marianas, for these periods, through the "primary grantee", i.e., the Trust Territory Government.

As to revenues formerly derived by levies of taxes by the Congress of Micronesia (Item 3), the U. S. Secretary of Interior Order No. 2989, dated March 24, 1976 decreed that "all locally raised revenues, fees, taxes, interest, royalties, fines, licenses, and governmental charges imposed by the Government of the Northern Mariana Islands shall be deposited into the Treasury of the Government of the Northern Mariana Islands for appropriation by the Legislature..." (Secretarial Order 2989, Part V., Revenues)... and further stipulated that: "... the levy of duties on goods imported into the Northern Mariana Islands is hereby reserved to the Northern Mariana Islands Legislature and the Resident Commissioner; provided, however, that those portions of the Trust Territory Code dealing with the levy of duties on imported goods in effect on the effective date of this Order shall remain in effect in the Northern Mariana Islands subject to collection by the Trust Territory Government revenue division and further subject to the accrual of fifty percent of the annual gross amount of such duties to the Northern Mariana Islands Legislature and the accrual of the remaining fifty percent to the Congress of Micronesia. (Secretarial Order 2989, Part III, Section 6). This direct availability of revenues to the Northern Marianas took effect April 1, 1976.

On "reimbursements" (Item 4), which are those classes of governmental income defined as being direct credits or "repayments" of government expenditures by users and consumers, such as utilities income, certain health services and agricultural income, etc., the separation did not cause any deviation from the pre-separation impacts and quantity of "reimbursements", as those reimbursements taken in at the Marianas level was already being directly credited to Marianas end-use accounts and was, so to speak, already built into the programs and operations budgets.

In Fiscal Year 1977 that portion of the United States Grant Appropriation alloted for the Northern Marianas will come directly to (beginning Oct, 76) the Government of the Northern Marianas, rathern than through the Trust Territory Government. Northern Marianas locally raised Tax Revenues, as well as other revenues levies, with the exception of the specialized handling of Import Duties (as stipulated in Secretarial Order 2989), will be deposited into the Treasury of the Northern Marianas and appropriated by the Legislature of the Northern Mariana Islands, during Fiscal Year 1977. "Reimbursements" will be directly credited to operating accounts, as in the past, except that income derived will be deposited directly to the Treasury of the Northern Marianas, instead of through the Trust Territory General Fund.

In the case of Federal Program Funds (Item 2), however, in many cases, the "primary grantee", in Fiscal Year 1977, will continue to be the Government of the Trust Territory with the Government of the Northern Marianas receiving its allocation as a "sub-grantee", during Fiscal Year 1977 and possibly, even into Fiscal Year 1978. This is because the Federal Legislation which make such Federal Grants available, in many cases, does not specifically recognize the separate and independent status of the "Government of the Northern Mariana Islands", and unless and until such Federal Legislation can be amended to incorporate the Government of the Northern Mariana Islands, the only entity that can legally receive such direct grants would have to continue being the Trust Territory Government. This ineligibility of the Northern Mariana Islands for direct grants of Federal Program Funds does, however, come to an end with the assumption of full U. S. Commonwealth Status by the Northern Mariana Islands.

Government of the Northern Mariana Islands

ORGANIZATION OF THE GOVERNMENT OF THE NORTHERN MARIANA ISLANDS AND FUNCTIONS

The "Organization Chart" of the Government of the Northern Mariana Islands (GNMI) shows the structure of the Executive Branch, as well as its inter-relationship with the Legislature and Municipal Councils; with the Office of Transitional Studies and Planning; with the Judiciary; and with autonomous or semi-autonomous entities, located in the Northern Marianas, such as the Peace Corps, the Federal Comptroller's Office, etc..

This Organization Chart is that of the "transitional" organization that exist, as of the date of this Budget Estiamtes preparation (September, 1976), with some anticipation of organizational adjustments and additions, from where such adjustments are already in process, and can be reasonably expected to be in place by Fiscal Year 1978 or earlier. Examples are inclusion of some formerly Trust Territory Headquarters structured entities, such as: The District Court, the Revenue Office, the Land Commission and the Public Defender's Office.

The re-organization and re-structuring of the Northern Marianas Executive organization to a form most suitable to govern a U.S. Commonwealth began immediately upon separation of the Northern Marianas from the rest of the Trust Territory on April 1, 1976, and continues to be a gradual evolutionary process. Initially, the changes were primarily in the Executive Office, with the former District Administrator and Deputy District Administrator replaced by a Resident Commissioner and an Executive Officer.

Due to the fact that the Northern Marianas budgets for the balance of FY 1976 and the "transitional fifth quarter" (July - Sept. 1976) were still integrated parts of the Trust Territory budget, no significant organizational or funding transfers were made from the Trust Territory during these periods.

Beginning with Fiscal Year 1977 (October 1, 1976), most of the Northern Marianas programs, operations, and organizational entitles have been transferred from Trust Territory Headquarters to the Northern Marianas Government. Since the FY 1977 Budget for the Northern Marianas is integrated within a Trust Territory total it was necessary to make funding, and manpower transfers from the Trust Territory to the Northern Marianas. There are also closely intertwined and commingled activities, which require concentrated negotiations and analysis to unravel the Northern Marianas portion from the total. Agreements as to these reapportionments are

documented in a Memorandum of Understanding between the Trust Territory High Commissioner and the Resident Commissioner.

Further re-organizations requirements, both for the initial Constitutional Government stage, with an elected chief executive replacing the Resident Commissioner (estimated for late 1977 or early 1978) and the eventual U.S. Commonwealth Status, are being studied and considered by the Office of Transitional Studies and Planning; the Northern Marianas Legislature, the Office of the Resident Commissioner and others.

During the ongoing "transitional stage", executive and administrative authority of the Government of the Northern Mariana Islands and responsibility for carrying out international obligations undertaken by the United States with respect to the Northern Mariana Islands are vested in the Resident Commissioner, appointed by the Secretary of the Interior.

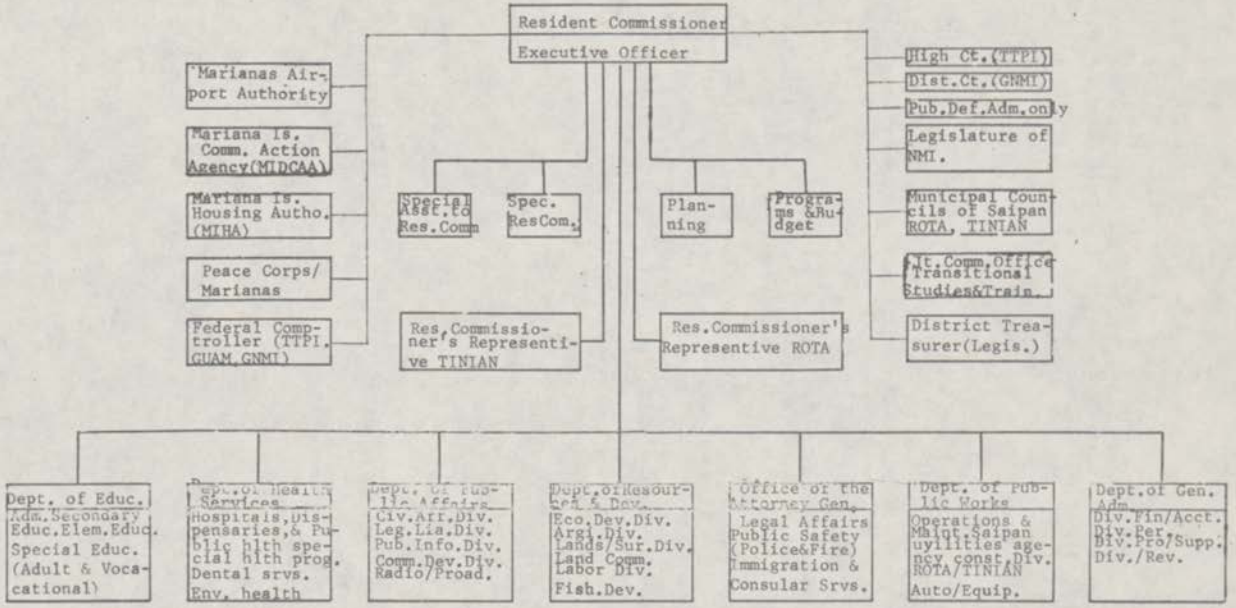
Legislative authority lies with the Unicameral Legislature of the Northern Marianas Islands, as stipulated in Secretarial Order (Interior), No. 2989, dated March 24, 1976.

Judicial Authority, also as stipulated in Secretarial Order 2989, dated March 24, 1976 and in the accompanying Secretarial Proclamation of the same date, continue to be vested in the Trust Territory Judiciary, until such time as a Judicial System is sufficiently developed for the Northern Mariana Islands. It is anticipated that the Northern Marianas District Court will be funded by the Northern Marianas Government some time during Fiscal Year 1978.

GOVERNMENT OF THE NORTHERN MARIANA ISLANDS (GNMI)

ORGANIZATIONAL CHART OF THE TRANSITIONAL GOVERNMENT

(As Of September 1, 1976)



NMI 26

Government of the Northern Mariana Islands

ANALYSIS BY ACTIVITIES

Activity	Fiscal Year 1977 Total Appropriation	Unoblig. Balances	Pay Act Costs	Amount Available
1. Grant Operations.....	$ 7,210,000	$ 227,936	$ 10,000	$ 7,447,936
2. Grant CIP.....	3,770,000	2,270,421	---	6,040,421
Total.....	$10,980,000 1/	$2,498,357	$ 10,000	$13,488,357

Activity	FY 1977 Amount Available	FY 1978 Estimate	Inc(+) or Dec(-) 78 Compared to 77	Page Reference
Grant Operation.....	$ 7,447,936	$ 9,582,000	$ +2,134,064	29
Grant CIP.....	6,040,421	3,933,000	-2,107,421	108
Sub-Total	$13,488,357 1/	$13,515,000	$ + 26,643	
Proposed later request once Covenant funding provisions are met.....	---	2,614,000	+2,614,000	118
Total	$13,488,358 1/	$16,129,000	$+2,640,000	

1/ Does not include proposed supplemental for Trust Territory of the Pacific Islands of $7,844,000, of which $882,000 is proposed for the Northern Mariana Islands Government.

The estimate of $13,515,000 plus later additional request of $2,614,000 represents an increase of $5,139,000 in budget authority over FY 1977 exclusive of carryover funds of $2,498,357

Grant Operations.....	$ +2,362,000
Grant Construction.....	+ 163,000
Additional later request....	+2,614,000
Total	$ +5,139,000

83-561 O - 77 - 83

Government of the Northern Marianas

Budget Authority - Summary by Activities

Activity/Sub-Activity	FY 1977 Estimate	FY 1978 Estimate	INC(+) or DEC(-) FY78 over FY 77	Page Ref
Grants				
(a) Operations				
(1) Office of Resident Commissioner...	$ 349,300	$ 368,700	$ + 19,400	29
(2) Public Defender.....	---	85,600	+ 85,600	34
(3) Federal Comptroller.....	---	124,000	+124,000	36
(4) GNMI share of Typhoon Disaster Relief.....	---	50,000	+ 50,000	37
(5) Revenue Division.....	(118,000) 1/	(123,500) 1/	(4,700) 1/	38
(6) Health Services.....	1,137,600	1,574,200	+436,600	40
(7) Education.....	1,515,800	1,760,600	+244,800	48
(8) Public Affairs.....	127,000	154,100	+ 27,100	55
(9) Resources and Development.....	622,100	906,700	+284,600	62
(10) Attorney General.....	440,500	549,500	+109,000	75
(11) Administration.....	158,800	271,400	+112,600	83
(12) Public Works.....	2,868,900	3,737,200	+868,300	91
Total Grant Operations	7,220,000	9,582,000	+ 2,362,000	
(b) Construction.....	3,770,000	3,933,000	+ 163,000	108
Sub-Total	10,990,000 2/	13,515,000	+ 2,525,000	
(c) Additional later FY 78 funding request.....	---	2,614,000	+ 2,614,000	118
Total Grants	$10,990,000 2/	$16,129,000	$+ 5,139,000	

1/ Non-add item

2/ Does not include proposed supplemental for Trust Territory of the Pacific Islands of $7,844,000, of which $882,000 is proposed for the Northern Mariana Islands Government.

Government of the Northern Mariana Islands

GRANTS

(a) Operations:

(1) Office of the Resident Commissioner: Fiscal Year 1977, $349,300; Fiscal Year 1978, $368,700; an increase of $19,400 The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$+19,400	-	$368,700	29	Office of the Resident Commissioner--provision is made for normal within-grade increments. Offices of Resident Commissioner's Representatives at Rota and Tinian and Marianas Programs and Budget Office herein included.
	$+19,400	-	$368,700	29	

There is no significant funding differences indicated in this executive activity, as between Fiscal Year 1977 and Fiscal Year 1978. The bulk of the small "increases" indicated is for within-grade normal incremental salary increases of incumbents. It should be noted that incorporated within this executive category are the immediate offices of the Resident Commissioner's Representative at Rota and Tinian, the Programs and Budget Office, the U. S. Consular functions, the radio room operations and the "District Treasurer" activity.

It should also be noted that this is the organization pattern that exist under the transitional government, prior to the adoption of the Northern Marianas Constitution, the initiation of the Constitutional Government, and the inauguration of the elected Chief Executive, who will replace the Resident Commissioner, and the "Second-in-Command", who will replace the Executive Officer. It is not known, at this time, as to the salary levels of these two top executive positions, and for purposes of budget compilation expediency, the position titles of Resident Commissioner and Executive Officer, with present levels are being utilized. It is also not known, if the support staff of

the new Chief Executive will be similar as that of the present Resident Commissioner, and again, the present staffing level and pattern is being used, for budgetary expediency purposes. There will undoubtedly have to be adjustments made, when the elected Chief Executive is installed, and reorganizations made of this activity.

FUNDING OF THE OFFICE OF THE RESIDENT COMMISSIONER

Program	FY 1977 Estimate	FY 1978 Estimate	Change
1. Office of the Resident Commissioner	$349,300	$368,700	$+19,400
TOTAL	$349,300	$368,700	$+19,400

1. Office of the Resident Commissioner (Including Offices of the Resident Commissioner's Representatives at Rota and Tinian and the Programs and Budget Office): $+ 19,400; Total $368,700.

The Office of the Resident Commissioner is the Chief Executive and Administrative Office for the entire transitional executive wing of the Government of the Northern Mariana Islands, and from this office emanates all the executive, administrative and supervisory authority over all activities in the Northern Mariana Government. As Chief Executive, the Resident Commissioner also approves or disapproves legislation of the Legislature of the Northern Mariana Islands. Regional executive direction and supervision has been delegated to Resident Commissioner Representatives at the sub-district centers of Rota and of Tinian.

The immediate executive office staff of the Resident Commissioner, funded within this budgetary category, include an Executive Officer, a Special Assistant and a Special Consultant. The Executive Officer is a citizen of the Northern Marianas, and the former District Administrator of the Mariana District immediately prior to separation on April 1, 1976. The Special Assistant is a U. S. citizen, and formerly Special Assistant for Legislative Affairs for the Trust Territory Government. The Special Consultant is also a U. S. citizen, and formerly, the Deputy District Administrator for the Marianas District, immediately prior to separation. The Special Consultant is also the U. S. Consular Officer for the Northern Mariana Islands, a position he held during the Trust Territory administration period.

In addition to these positions, the Office of the Resident Commissioner is staffed by a Chief Radio Operator, who operates the Administration land-line teletype system, the single-side band voice radio communication system with the other islands of the Northern Marianas, and also serves as Disaster Monitoring Officer (especially typhoons and other storms) for the Resident Commissioner. Other employees in this activity are of the secretarial, clerical and custodial types.

Also included in this organizational and budget category are the two "Office of the Resident Commissioner's Representatives", one at Rota and the other at Tinian. These officials are the personal and direct representatives of the Resident Commissioner, in all areas of executive direction, administration and supervision, and carry out their functions, at their islands, in behalf of the Resident Commissioner. Both Resident Commissioner's Representatives are local citizens. As these outer-islands carry out a full range of programs, in education, health, economic development, agriculture, administrative services, public works, public safety, etc., this means that the administrative and executive directions and functions of these "Representatives" are of a wide and vital level. The funding for these Representative offices, which are included in the general budgetary category of "The Office of the Resident Commissioner" include immediate staffs of these Representative offices, such as administrative officers and aides, radio operators and secretarial and clerical employees. From an accounting standpoint, the funding for these Representative Offices are sub-allotted to them by the Resident Commissioner, and managed and accounted for at the sub-District Center levels.

In addition to these executive and administrative functions, the budget of the Office of Resident Commissioner includes the Northern Marianas Programs and Budget Office. The inclusion of the Programs and Budget Office within the category of the "Office of the Resident Commissioner" results from such an allocation practice during the Trust Territory period, which has not been changed, as of this time. The Program and Budget Office is responsible for formulation of all the budgetary submittals of the Government of the Northern Marianas, both to the Northern Marianas Legislature and to the United States Government. It is also responsible for the daily administration of the current budget for the Northern Marianas, including both the programs and operations budgets and the capital improvement budgets.

Related to the formulation of budget submittals and current level management, this activity also must make many analysis and reviews, reports, and long-range projections and analysis, such as in programs memorandum, long-range planning papers, etc. The Office is headed by a Programs and Budget Officer, who is a local citizen.

Also funded within this category is the "District Treasurer" position, and operational costs of that activity. This position is primarily concerned with the handling of those "Revenues" which are appropriated and/or otherwise encumbered and expended by the Legislature of the Northern Mariana Islands, and includes accounting, disbursements, banking, preparation of financial statements and analysis, etc., as relates to management of the Legislature controlled funds. The District Treasurer position was established by legislation of the Congress of Micronesia and has been continued by the Government of the Northern Marianas, as a component part of the Office of the Resident Commissioner. The title, "treasurer", as here used, should not be confused with the treasury functions of the Marianas Finance & Accounting Office, as the "District Treasurer" does not have jurisdiction over the general Grants and other administrative funds of the Government of the Northern Mariana Islands.

The establishment of the Government of the Northern Mariana Islands, which took place April 1, 1976, were set forth in the Secretary of Interior's Secretarial Order 2989, of March 24, 1976, and also, by the Secretarial Proclamation of the same date. (Further details on this are set forth in the Highlight Statement of this Budget Estimate). The appointment of, and the delineation of functions of the Resident Commissioner are set forth in these documents. The U. S. Secretary of Interior appointed a very prominent citizen of the United States, Mr. Erwin D. Canham, former Editor and presently Editor Emeritus of the famed Christian Science Monitor, as the Resident Commissioner, effective April 16, 1976.

This present phase of the Government of the Northern Marianas is a transitional one, leading to an immediate next stage of a "Constitutional Government", when the Constitution of the Northern Marianas will have been drafted by a locally established Constitutional Convention, and ultimately approved by the United States Government. Upon approval of the Constitution, a Chief Executive shall be elected by the local residents, and shall replace the Resident Commissioner. The Constitutional Convention was held in November and December 1976 and was in session for 50 days.

This Budget Estimate for Fiscal Year 1978 is predicated on the Constitutional Government being in force by that time (i.e., FY 1978), which authorizes the use of the level of U. S. Funding Assistance, as stipulated in the "Covenant to establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America."

It is recognized that the adoption of the Constitutional Government will mean that the staffing and funding levels of the "Resident Commissioner's Office", as presently structured, would be replaced by the Office of the Governor structure, which may or may not coincide in staffing and costs. However, as it is impossible to forecast the Governor's Office structuring, at this time prior to the Constitutional Convention, the present format is being utilized.

(2) Office of the Public Defender: Fiscal Year 1977, $ -0-; Fiscal Year 1978, $85,600; an increase of $85,600. The increases consist of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$ + 85,600	+7	$85,600	7	Office of the Public Defender-- (This category was formerly funded at the Trust Territory Headquarters account and was transferred to GNMI in FY-1977): The apparent large increase is because of no amount being allocated in FY 1977, as it was included in the Trust Territory Government budget, and need for transfer of funds to GNMI from the TT Government.
	$ + 85,600	+7	$85,600	7	

Fiscal Year 1977, the Public Defender activity was funded as a Trust Territory Headquarters entity, but with the separation of the Northern Marianas, as of April 1, 1976, the Northern Marianas Public Defender activity was set up separately, as a Northern Marianas function. This activity operates independently of the Executive, Legislative and Judiciary Branches and is attached to the Executive, only for administrative support.

FUNDING FOR OFFICE OF THE PUBLIC DEFENDER

Program	FY-1977 Estimate	FY 1978 Estimate	Change
Office of the Public Defender--	-0-	$ 85,600	+$85,600
Total----------	-0-	$ 85,600	+$85,600

Government of the Northern Mariana Islands

PROGRAM DESCRIPTION

The purpose and function of the Public Defender program is to provide legal services, both criminal and civil, to eligible persons in the Northern Mariana Islands. The cost of private legal services is beyond the means of most citizens in the Northern Mariana Islands. For this reason, representation by the Office of Public Defender is required in a very high percentage of the litigation taking place in the courts. In addition to the trial representation, legal services of a general nature, including the frequent preparation of affidavits, deeds, wills and other legal documents, is a daily part of Public Defender work.

The advent of the Micronesian Legal Services Corporation coupled with the recent establishment of several branch office of Guam law firm has led to increased litigation creating a constantly increasing demand on the Public Defender Office.

(3) Office of the Federal Comptroller (TTPI, Guam and GNMI): $+124,000 total $124,000.

The amount provided in this category is for the purpose of reimbursing costs borne by the Guam/TTPI/GNMI Federal Comptroller, in performing his functions of auditing the accounts of the Government of the Northern Marianas. The costs are originally borne by the Federal Comptroller's activity, and billed to the Northern Marianas Government. There are no Northern Marianas employees involved in this activity.

Funding for Office of Federal Comptroller
(TTPI, Guam and GNMI)

Program	FY 1977 Estimate	FY 1978 Estimate	Change
Office of Federal Comptroller...	-0-	$124,000	+$124,000
Total.....	-0-	$124,000	+$124,000

PROGRAM DESCRIPTION

U.S. Public Law 93-111 of September 21, 1973, extended the audit responsibilities of the Federal Comptroller for Guam to include the Trust Territory of the Pacific Islands. This activity is a component of the Office of Territorial Affairs of the U.S. Department of the Interior. The first TT audit by this activity covered FY 1974.

With the separation of the Northern Marianas, as of April 1, 1976, (i.e., during Fiscal Year 1976), it was decided that the Federal Auditor will provide this auditing service to the Northern Marianas as well, and that the Northern Marianas Budget would need to fund this cost, beginning with Fiscal Year 1978.

The audit activities of the Federal Comptroller are to:

1. Improve the efficiency and economy of Northern Marianas government programs;

2. Ensure that Federal funds provided for the support of the Northern Marianas Government are properly accounted for and that full disclosure is made of the use of such funds in accordance with Federal fund reporting requirements.

Government of the Northern Mariana Islands

(4) Typhoon Damage Assistance Fund:

This fund is for purpose of providing a portion of the "matching funds", required as the Government of the Northern Marianas' share of Typhoon Pamela and Typhoon Therese disaster assistance programs. The Northern Marianas share has been advanced by the Federal Government.

FUNDING FOR TYPHOON DAMAGE ASSISTANCE FUND

	Fiscal Year 1977	Fiscal Year 1978	Changes
Typhoon Assistance.....	-0-	$50,000	+$50,000

PROGRAM DESCRIPTION

Between May 20 - 22, 1976, the Northern Marianas received severe damages in the public and private section due to the onslaughts of Typhoon Pamela. (This same Typhoon severely damaged both the Truk District and Guam). The Resident Commissioner requested a Declaration of a Major Disaster area for the Northern Marianas, a necessary pre-condition to federal assistance, on June 10, 1976, and the President of the United States did so on June 17, 1976. (The Disaster was designated as "FDAA-508-DR).

While the Northern Marianas was still in recovery efforts from Typhoon Pamela, Typhoon Therese struck the Northern Marianas between July 13th, & 14th, 1976, and caused further damages. The Resident Commissioner again requested a Disaster Declaration, and the U.S. President responded by extending the incidence period of the previous Typhoon Pamela declaration, to permit federal assistance.

Aside from Federal Assistance in the Public Sector, which were fairly substantial, federal disaster regulation permitted assistance to the private sector, including assistance to subsistence farmers, under the purview of Section 408 of the Federal Disaster Regulations, as authorized by U.S. Public Law (3-288, of 1974. This program is known as the Individual and Family Grants program (IFGP).

Over 1,000 requests for private assistance were received, totalling over $1,000,000, mostly in the restoration of damaged roofs, in losses or damages to personal belongings and to receive assistance in re-planting subsistence coops.

The IFGP regulations stipulate that the "state" (in this case, the Government of the Northern Marianas) must bear 25% of the assistance costs. Recognizing that the Northern Marianas would be hard-pressed to make its contribution immediately, the Federal Government "advanced" the Northern Marianas' share (approximately $250,000), but expect reimbursement within 2 years or so.

This $50,000 will only partially defray the "reimbursement" needs, and it will be necessary to seek other funding assistance, such as from the Legislature, by re-programming other funds or by other means.

(5) The Marianas Division of Revenues:

This activity, a vital component of the Government of the Northern Marianas, is funded by the Legislature of the Northern Marianas, out of Revenues, and does not utilize Northern Marianas Grants appropriations. It is herein presented, primarily for informational purpose. The estimated requirement for this activity, in Fiscal Year 1977 is $118,800, and for Fiscal Year 1978, $123,500; an increase of $4,700.

PROGRAM DESCRIPTION

The primary function of the Marianas Division of Revenues is the assessments and collection of all taxes, with the exception of the specialized handling of Import Duties (as stipulated in Secretarial Order 2989), licenses and fees of the Northern Marianas Government, as stipulated, authorized and levied by laws and regulations; and to make appropriate deposits of such collections, together with maintenance such records, accountability and reports as may be required.

Prior to the separation of the Northern Marianas from the rest of the Trust Territory, effective April 1, 1976, the Marianas Division of Revenues, which also carries out customs inspections, was handled as an integrated part of the Trust Territory Headquarters Division of Revenues, with management and direction, including funding controls maintained at the TT Headquarters level.

The separation of the Marianas Revenues Division from the Trust Territory jurisdiction has been complicated by a provision in the U.S. Secretarial Order (which decreed separation) that stipulated that 50% of Import Taxes assessed and collected in the Marianas would continue to revert to the Congress of Micronesia (i.e., to the Trust Territory) and that administration of this Import Tax program would continue to be with the Trust Territory Government. Although it has not been specifically so stated, it is assumed that this 50% division with the TT Government would remain in effect until the Constitutional Government of the Northern Marianas is emplaced.

At the present time, the Marianas Division of Revenues is made up of 10 employees, plus 1 CETA trainee. Of these, 1 is funded by the Northern Marianas Legislature and 1 by the CETA program funds, with the remaining 9 employees funded by the Trust Territory Government. There are 8 employees in Saipan, 2 in Rota and 1 in Tinian. Tax and Customs inspection are carried out by

inspectors from the Revenues Division at the Saipan International Airport, at Rota and Tinian Airport and at the Seaports.

Basically, the revenues activities of this Division are assessments and collections in the following areas:

1. Personal and Business Income Taxes
2. Import and Export Duties and Taxes
3. Certain Licenses and Fees

The Revenues Division must assess, collect, make appropriate deposits, maintain documentary and accounting records and prepare necessary statements and reports on these various forms of revenues. In most cases, these revenues revert to the General Funds of the Government of the Northern Marianas, for appropriation by the Northern Marianas Legislature, except for 50% of the Import Tax going to the Congress of Micronesia, as previously noted.

(6) Health Services: Fiscal Year 1977, $1,137,600; Fiscal Year 1978, $1,574,200; an increase of $436,600. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$+130,300	+1	$919,800	133	Hospital and dispensary services--annual within-grade increments, plus establishment of 1 new position required to staff and operate Tinian dispensary which has no Doctor, and to provide more adequate funding in all other object classes.
(ii)	+19,300	-	225,000	-0-	Patient referrals--maintained at FY-1977 level.
(iii)	+10,700	-	53,900	10	Environmental health and sanitation--annual within-grade increments and more adequate funds for procurement of needed supplies and equipment for improved environmental health sanitation services.
(iv)	+26,300	-	125,500	12	Dental services--annual within-grade increments, plus additional funding to procure dental equipment required to provide improved dental care.
(v)	+250,000	-	250,000	-	Medical supplies and equipment--to establish procurement funding for various medical supplies and equipment, previously

Government of the Northern Mariana Islands

Amount	Positions	Total Program	Total Positions	Explanation
				provided by TT Government and to maintain supply stock levels and replace existing deteriorated equipment--all at greatly increased prices and freight costs.
$+436,600	+1	$1,574,200	155	

There is no significant programs changes in the Marianas Department of Health Services, as between Fiscal Years 1977 and 1978. The $436,600 in "increases", as herein indicated, is primarily as a result of the separation of the Northern Marianas from the rest of the Trust Territory, which took place on April 1, 1976 (Fiscal Year 1976), and the assumption of full Health Services costs by the Northern Marianas Government ... costs which were, prior to separation, absorbed within the Trust Territory Headquarters funding allocation.

Specifically, this refers to an apparent "increase" of $250,000 in the line item "Medical Supplies and Equipment", which is, in fact, the assumption of this cost by the Northern Marianas, which were, in prior years, incorporated into the Trust Territory Headquarters allocation. For Fiscal Year 1977, although the Northern Marianas had already separated, the funding allocations did not reflect "medical supplies and equipment" funding to the Marianas (i.e., funding still retained in the TT Headquarters allocation), and a funding transfer from the TT to the Marianas will have to be made.

HEALTH SERVICES
PROGRAM DESCRIPTION

The Northern Mariana Islands Health Services' goal and objective is to continue to improve the general health of the people in the Northern Marianas - by the providing of medical care, preventative medical services, dental services, improvement of environmental and sanitary standards, the dissemination of information on desirable and improved health and sanitation lifestyles and practices and to generally improve the overall health standards throughout the Northern Mariana Islands, commensurate with the most modern knowledges practicably adaptable to this area.

In keeping with this trend towards upgrading and improvements of health knowledge and practices, the Department of Health Services also engage in active programs of in-service training, training of medical, para-medical and other health services related personnel and in upgrading and improvements of health facilities, equipment and supplies stocks, to the maximum degree possible, within the strictures of funding and manpower limitations.

HEALTH SERVICES FUNDING - GENERAL

Program	FY 1977 Estimate	FY 1978 Estimate	Change
1. Hospital and Dispensary Services-.....	$ 789,500	$ 919,800	$+130,300
2. Patient Referrals.....	205,700	225,000	+ 19,300
3. Environmental Health and Sanitation.....	43,200	53,900	+ 10,700
4. Dental Services.....	99,200	125,500	+ 26,300
5. Medical Supplies and Equipment.....	-0- (*)	250,000	+250,000 (*)
Total	$1,137,600	$1,574,200	+$436,600

(*) In Fiscal Year 1977, Medical Supplies and Equipment are funded in the Headquarters allocation of the Trust Territory Government, pending transfer of an appropriate amount to the Government of the Northern Marianas.

1. Hospital and Dispensary Services, +$130,300; total $919,800.

The health services for the Northern Marianas is focalized in the 84-beds Dr. Torres Memorial Hospital at Saipan. The hospital also provides 12 bassinetts for infants. This is a full-service hospital, providing out-patients and in-patient cares, including ambulance service, with a full-range of services provided including, but not limited to pharmacy services, X-rays, electro-cardiagrams, laboratory services (blood, urine, tissues smears and other tests), food services, hospital administrative services, including medical records for all patients, medical statistical reporting and medical equipment maintenance and repairs.

One of the major areas of activity of the hospital and dispensaries service is in public health, which literally takes health services into the villages and domiciles of the citizenry,

in a basic program of preventative medicine and communicable disease control. Vital areas of activites are: physical examinations of food handlers; pre-employment physical examinations, especially of alien imported labor; scholarship students and visa applicants examinations; immunization; maternal and child care programs; tuberculosis check-ups domicilliary cares and follow-ups; health care for the aged and infirm; leprosy follow-up; school health services; mass X-rays; health education, etc..

The Northern Marianas Health Service is headed by a local citizen as the Director of Health Services, who maintains his main office at the Dr. Torres Hospital. The Director, who is a doctor, is assisted by another local citizen, also a doctor, and nine (9) additional doctors; seven (7) at the Saipan hospital, 1 at Tinian and 1 at Rota; of whom four (4) are expatriates MD's. The total complement of the Hospital, field hospitals and dispensaries come to 153 persons of which fourteen (14) are at Rota Field Hospital, six (6) at Tinian dispensary and 1 each at Pagan and Agrihan. The hospital is staffed by a complement of nurses, para-medicals, health aides, corpmen, laboratory and equipment technicians, as well as administrative, housekeeping and custodial personnel.

Administrative functions include management of health services budget and finances management, including fees collections; personnel management; supplies procurement, inventories and issuances; janitorial and custodial services; laundry service; food services, providing full-meal services, including specialized diets, etc.. The Trust Territory School of Nursing is fed by the Hospital.

The Nursing activity provides all phases of nursing care, both in-patient and out-patient, on a 24-hour basis. The nursing activity cover such areas as: out-patient care; obstetrics and nursery; surgical ward; medical ward; pediatrics; psychiatric; sterile central supply and operating and delivery rooms.

In addition to the central Hospital at Saipan, a Field Hospital of 12-beds capability is operated at the sub-District Center of Rota. In addition, dispensaries are operated by the Health Services at Tinian (with limited, in-patient capability), at Pagan and Agrihan Islands in the northern islands and 4 dispensaries in the villages at Saipan. Recently, to meet a long-felt and overdue need at Tinian, a full-fledged Doctor has been employed and assigned to

83-561 O - 77 - 84

the Tinian dispensary. Prior to this time, services to Tinian was handled by Saipan doctors commuting to Tinian periodically, or patients being evacuated to Saipan - a practice highly unsatisfactory to Tinian residents. The funding and staffing for this Tinian doctors shows as a position increase in FY'78, as this position was funded by the Legislature in FY'76 and FY'77.

Rota Field Hospital, in addition to being headed by a doctor and providing a 12-beds in-patient service, is also equipped to provide routine laboratory tests and X-ray. Pharmaceutical is confined to dispensing and storage of drugs.

2. Patients Referrals, +$19,300; total $225,000.

Normally, all classes of medical cares are provided at the Dr. Torres Hospital in Saipan, with the Rota Hospital and all dispensaries referring their more complicated and serious cases to Dr. Torres Hospital. However, where it has been determined that complications or seriousness are beyond the capacity of the local facilities and skills, "medical referrals" are made to Guam, primarily the Guam Naval Hospital, and in rarer cases, to Hawaii. Crippled children referrals are made to the Guam Memorial Hospital.

Prior to Fiscal Year 1976, when the Northern Marianas was still an integrated part of the Trust Territory Government, Territory-wide "medical referrals" funding was retained and administered at the Trust Territory Headquarters level. In Fiscal Year 1976, this fund was distributed to District level control and therefor, became part of the Northern Marianas budgeted item on separation. At about this time, the U.S. Department of Defense authorized "special rate" to TT referrals (of $66 per day) was cancelled, and the daily cost to the TT sky-rocketed to $147. This factor, plus rising air fare rates and other cost factors has caused "medical referrals" costs to more than double between FY'74 and FY '77.

3. Environmental Health and Sanitation, +$10,700; total $53,900.

The basic function of this activity is to develop, maintain and improve environmental health conditions and practices, to prevent diseases attributable to unsanitary and polluted conditions. Such undesirable conditions are sought out, and actions taken to eliminate undesirable conditions and practices.

Included within the functions of this activity are inspections of food-handling (including issuance of Health Certificates), and other public facilities to prevent disease generating and spreading conditions, sewage and other waste-disposal policing, vector controls, etc.. This activity is empowered to issue warnings, cease and desist orders, and in extreme cases of non-compliances, to shut down offending activities and facilities.

This activity also makes semi-annual general village inspections, as well as incoming ships and crews inspections, for sanitary and environmental health regulations compliances.

Environmental protection standards established by the Trust Territory Environmental Protection Board still provide general guidelines for this activity, as the Northern Marianas has not yet, as of this date established its own Board and regulations.

4. Dental Services, +$26,300; total $125,500.

The Mariana Dental Services is a Division of the Marianas Health Services. Under the overall direction of the Director of Health Services, the Senior Dental Officer supervises and operates this services. The main office of the Dental Services is located at Chalan Kanoa Village in Saipan, with facilities also available at the Dr. Torres Hospital.

Out-Island services are performed by visitations made by the dental officers and nurses with portable dental units in most cases. Tinian island is visited weekly; Rota once a month; and the Northern Islands in most cases every field trip, which is about every three (3) months.

Both Rota and Tinian have limited facilities available.

School dental program is being conducted actively throughout the Marianas. Dental Services include examination, filling, extraction, prophylaxis (cleaning), prosthesis (false teeth), dental surgery and school dental health program including the Head-Start children.

In recognition that the equipment for this vital activity is worn and obsolete, an increase has been provided, mainly for the acquisition of a limited amount of new equipment.

5. Medical Supplies and Equipment, +$250,000; total $250,000.

This category is for the purchase of medical supplies (medicine, drugs, bandages, etc.) and equipment, which are not provided for in the operational allocations of the Health Service component activities.

The primary reason for this fund to be segregated, and not integrated in activities allocations is that, in the Trust Territory Government, this category was, and as of FY'78, is, still treated as a TT Headquarters managed and controlled Territory-wide fund - primarily to obtain better controls and to take advantage of bulk-purchasing.

With the separation of the Northern Marianas (April 1, 1976), it became necessary to segregate and break-off the Northern Marianas portion, and to establish this funding category within the Northern Marianas Budget. This is being done, as a component part of the budget allocation of the Northern Marianas Department of Health Services, to be administered and managed by the Marianas Director of Health Services.

As the separation of the Northern Marianas took place in "mid-stream" of FY'76 (April 1 - i.e., beginning of the 4th Quarter), and since insufficient time and capability existed for a funding transfer to the Northern Marianas in the Transitional "Fifth Quarter" of FY'76 (July - September 1976), requisitions of medical supplies and equipment, during this period, was made by the Northern Marianas with charges directly against the TT Headquarters account.

In the FY'77, since the TT Budget was already pre-structured prior to separation, including the Marianas, the "normal" Marianas allocation, which is being used as a base-line for the new Northern Marianas' FY'77 budget, did not include funding for medical supplies and equipment; (i.e., it is still included within the TT Headquarters allocation). This will have to be adjusted by a funding transfer of an agreed to amount from the TT budget to the Northern Marianas Budget, in FY'77. Therefore, the seeming "large increase" in this category, from a base-line of -0- to the FY'78 allocation, is not a real program increase, but is only a quirk in budget presentation method. Past records of Northern Marianas medical supplies and equipment purchases indicate that the FY'78 allocation is substantially, at the same level as in prior years.

Government of the Northern Mariana Islands

Utilization of Hospital Facilities

Fiscal Year 1976

Hospitals	Beds Available	Average Daily Census	Percent of Occupancy Days	Total Census Days	Out-Patient Visits
Saipan...	84	55	65	20,135	53,550
Rota.....	12	5	42	1,942	6,104
Tinian...	4	0.2	.05	54	3,553
Total..	100	60.2	60	22,131	63,207

Patient Admissions

Hospitals	FY 1972	FY 1973	FY 1974	FY 1975	FY 1976
Saipan	1,666	1,685	2,014	2,180	2,274
Rota	458	472	420	402	469
Tinian	-	-	-	-	1/ 18
Total.....	2,124	2,157	2,434	2,582	2,761

1/ Previous years record not available.

(7) Education: Fiscal Year 1977, $1,515,800; Fiscal Year 1978, $1,760,600; an increase of $244,800. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$+ 16,600	-	$130,700	20	Administration--provides for within grade increments.
(ii)	+119,600	+1	907,900	178	Elementary Schools--provides for within-grade increments, plus establishment of 1 new position to work on various clerical matter in the school office and procurement of additional supplies and equipment needed for new schools and expanding enrollment in existing schools.
(iii)	+108,600	+7	722,000	96	Secondary schools--provides for within-grade increments, plus reinstatement of 7 teaching positions dropped in FY 1977 due to lack of fund, and procurement of additional supplies and equipment needed for expanded enrollment in existing schools.
	$+244,800	+8	$1,760,600	294	

Neither Fiscal Year 1977 nor Fiscal Year 1978 show any significant increase in Education funding, as compared to Fiscal Year 1976, when the Northern Mariana Government was within the general total of the Trust Territory Government. The separation of the Northern Marianas from the Trust Territory Government did not cause any major disruptment, from a budgetary funding standpoint in Education, in the normal U. S. grant funds, as the organization and funding of the Marianas Department of Education, was already fairly complete and decentralized from Headquarters funds. There are still some advisory and technical areas of assistance that had been provided by TT Headquarters, but these can be coped with by continuing reimbursable or non-reimbursable assistance from the Trust Territory, or by an in-house upgrading and development of these capabilities at the Marianas Education level.

Education, however, being considered a primary, if not the primary program of any developing nation, there are significant amounts of Federal Program Funds, legislative supportive appropriations and other grants made to the Department of Education. These special funds and usually, the program involved, are not included in these Budget Estimates, as they are not part of the regular Budget Request and Estimates of the Department of Education, although they play a significant role in education, when the whole is considered. The administration of these "Special Funds" and programs, however, do play a major role in Education administration and programs, and will be described in proper context in the narratives that follow.

PROGRAM DESCRIPTION

It is an oft-stated truism that it is in the children and youth that the destiny and future of the nation is vested. Second only to the family...and sometimes even superior to that influence, is the tremendous role that education plays in the development, guidance and even molding of our children, as they move towards maturity, and even more important, the taking over of the eventual leadership, administration and development of our government, our families, our very societies and existence. In a young and developing government and society, such as exist in the Northern Marianas, the importance of education can never be overemphasized.

The Marianas Department of Education is composed of four major areas, viz: (1) Education Administration, including administration of Special Programs, such as the vital Federal Program Grants; (2) Elementary Education; (3) Secondary Education; and (4) Special Education, such as handicapped children, vocational education, adult basic education, etc. At the present time, there are 11 Elementary schools,

3 junior high schools and 2 high schools operated by the Government Education System, with a total enrollment of approximately 5,000 students. As Trust Territory Headquarters is in Saipan, and a fairly large population of alien employees, in various private concerns, this contributes materially to the school population in the Northern Marianas.

Public schools are distributed throughout the Marianas, with 7 Elementary schools and 1 Junior-High School and 1 High School at Saipan; 1 Elementary School and 1 High School at Rota; 1 Elementary School (through grade 9) at Tinian; and 2 Elementary Schools in the Northern Islands of Agrihan and Pagan.

In addition, the Catholic Mission operates a 1st through 12th grade private shcool at Saipan, and the community operates a self-supported Pre-School and Kindergarten.

In addition to the basic functions in education, at the teaching and training level, Education is involved in a great many housekeeping and administrative functions, which includes, but is not limited to: budget, finance, personnel and supply management; operation of a school bus system (which also services the Private schools); preparation of many reports, analysis, studies, etc.

EDUCATION FUNDING

Program	FY 1977 Estimates	FY 1978 Estimates	Change
1. Education Administration	$ 114,100	$ 130,700	$ (+) 16,600
2. Elementary Education	788,300	907,900	(+) 119,600
3. Secondary Education	613,400	722,000	(+) 108,600
	$ 1,515,800	$1,760,600	$ (+) 244,800

1. EDUCATION ADMINISTRATION: $(+) 16,600 total $130,700.

The Marianas Department of Education is headed by a Director of Education, who is a citizen of the Northern Marianas. He is assisted by an Assistant Director, also a Marianas citizen, and, the "Administrative staff", herein funded, with technical, administrative and housekeeping personnel, such as a scholarship coordinator, librarians,

media and publication specialists, warehousemen, secretaries and clerks.

As the directions, supervision and technical and administrative center of the entire Northern Marianas educational system, this activity carries out a wide range of activities. In addition to regular direction, supervision, advisory and technical assistance to the entire school system, this activity prepares budgets, maintains accounting, personnel, supply and various other records; supervises and assists the entire school library system, including operations of a bookmobile to service areas without libraries; operates a printing and binding facility, including graphics and photography, primarily for development of curriculum and text material; supervises and operates s school bus system, which also serviæs the private schools; administers the various scholarship programs; and performs the many other functions which make up the management, administration and operation of a full-scale education program.

One of the large functions of this administrative organization is to administer and manage the Federal Program Grants program, which exceeds $200,000 in programs in 1976. This is a program whereby specific grants are made by the U. S. Government for programs in education, within the Northern Marianas, and are programmed, requested, administered and accounted for, separately from the regular Operational Grants of the Northern Marianas Government. Most of the Special Education programs in the Northern Marianas Educational system are presently funded by these Federal Program Grants, with some funded by local legislative grants, and other sources. (The program costs, therefore, do not appear as appropriation items within this Budget Estimate). Although the Northern Marianas separated from the Trust Territory Government on April 1, 1976, these Federal Program Grants continued to be funded and sub-granted to the Northern Marianas, through the Trust Territory Government, up to the present time. This is because the U. S. Legislation for these Program Grants did not provide for separate Grants to the Northern Marianas (which did not exist at the time most of these Grants Legislations were enacted).

Direct Federal Program Grants to the Northern Marianas will, undoubtedly, take place within the near future...possibly as early as Fiscal Year 1977. Pending this Direct Grant to the Northern Marianas, Federal Program Grants will continue being "sub-granted" to the Northern Marianas by the Trust Territory Government. Included within special educational programs are such programs as handicapped children programs, adult basic education, library and curriculum development, vocational education and many others. Another important

program to which increasing emphasis is being given is that of "Teacher Education." This is a program which provides for teachers in the Northern Marianas to be able to receive post-secondary classes and workshops (by contract with accredited institutions of higher education, providing courses in the Marianas), so that these teachers can meet present and future teacher certification requirements.

2. ELEMENTARY EDUCATION: $(+) 119,600 total $907,900.

The Elementary Education level for the Northern Marianas is comprised of 11 Public Elementary Schools, of which 7 are at Saipan, 1 at Rota, 1 at Tinian and 2 in the northern islands. Assuming that the "elementary" level includes up to Grade 8, the enrollment for School-Year 1976 was 3,276, with 3,354 anticipated for School-Year 1977 and 3,407 in School-Year 1978. This is expected to increase to 3,497 in School-Year 1979. Present plans, for Fiscal Year 1978, is to have an Elementary level staffing of 5 expatriates and 172 local citizens. Of this number, 134 are identified as teachers, with 11 principals or vice-principals, and the rest specialist positions, bus drivers, or other maintenance, administrative and custodial positions.

The vital Elementary education programming, structuring, disciplines and curriculum do not differ greatly, in one sense from the standard American school system fare of offerings in such areas as language arts (English, Chamorro and Carolinian), arithmetic, social studies, including citizenship and civic studies; science and health studies; homemaking arts, vocational arts, including agricultural schooling; cultural arts, such as art and music; physical education, etc.

However, in another sense, the educational system in the Northern Marianas encounter many unique problems, centered around the fact that this area only recently moved into the American sphere, with English now the official language and the lingua franca, with historical, cultural, community and family patterns still a mixture of the pre-American periods and current American ways and many other complicating factors. This cultural, familial and language clashes are particularly pronounced in the younger children of the elementary school level, who have not had that great an exposure to English language usages and American ways, as yet.

This results in curriculum needing to be specifically adapted and developed for meaningful utilization by the school children and the faculty; both from the standpoints of better adaptations and preparation for a changing, evolving society and surrounding and from the standpoint of a better, present existence. Many aids-to-teaching, which can be obtained in a pre-packaged form by American schools, must be developed locally, for meaningful utilization, and even those available, must be adapted to local usages, otherwise they would become irrelevant to the teachings and textbooks that the students can relate to their own existence.

At Rota, the school has been upgraded to be inclusive of Grades one through twelve, all housed in a single school complex. At Tinian, schooling is available through Grade 9.

3. SECONDARY EDUCATION: $(+) 108,600 total $722,000.

Secondary Education, in the Northern Marianas, is made up of 2 High Schools, one at Saipan (the Marianas High School, grades 11 & 12) and the Rota High School (Grades 11 and 12). (As previously noted in the "Elementary School" the Rota School is from grades one through twelve, in a single school complex.) There are 3 Junior-High Schools in the Northern Marianas, the Hopwood Junior-High School at Saipan (Grades 9 and 10), the Rota Junior-High School (Grades 9 and 10) and the Tinian Junior-High Schhol, grade 9 only. Based on the Secondary-level as being from Grades 9 through 12, there were 1,493 students in School Year 1976, and it is expected that School Year 1977 will have 1,505 students. It is also estimated that for School Year 1978, there will be 1,547 students, and that this will increase to 1,582 students in School Year 1979.

Present plans for Fiscal Year 1978 are to have a Secondary Schools level of staffing of 96, of which 23 are expatriates and 73 are local citizens. Of this, 76 are identified as teachers, with 3 principals and vice-principals, and the rest are specialists in various fields, counselors or maintenance/custodial and administrative employees.

The Secondary level of education continues, at a higher and more comprehensive level, the programs of development, growth and enlightenment of the young citizens of these islands started at the Elementary level in all aspects of their lives, including better understanding of their selves and their surroundings, and the development of their skills in various areas, to improve their enjoyment of their lives and lifestyles, and to better able to earn a livelihood in their chosen fields.

The fields of general and specialized studies offered to the secondary students are many and diverse, including:

1. Language arts: Continuing development in English language skills, with emphasis given to the reading of English, which has been discovered to be weaker than spoken skill in these islands. Plans are being developed for introduction of foreign language classes---particularly Japanese---in recognition of the many foreign visitors (particularly Japanese) in this area.

2. Social Studies: These programs are geared to giving the students better understanding of their surroundings (including Micronesian culture and history) and to develop better citizenship. This is particularly important to the Marianas citizens with the evolving of this government towards a new U. S. Commonwealth status.

3. Science and Mathematic Studies: Includes basic course studies to better prepare the student for higher education and eventual career development in the scientific fields.

4. Arts and other Cultural Studies: Both from the standpoints of improved cultural and life enjoyments and for career development.

5. Vocational Education: In many and diverse skills, for better preparation for eventual earning of a livelihood and for improved knowledge in these areas.

6. Physical Education: For improvement of health and in character development.

Secondary level education (up to the finishing of High School) are available to all residents of the Northern Marianas (both Citizens and foreign residents on a non-selective basis. The Northern Marianas has not been plagued with the highly undesirable situation of having to turn away students desiring secondary level education because of lack of facilities or capability, as has been the case in some Districts of the Trust Territory. As a matter of fact, some of the parents from other Districts have been sending some of their elementary and secondary level children to Saipan schools, which has, to some extent, added to the burden and costs of maintaining a school system for the children of the Marianas.

No school dormitories exist, in the Northern Marianas school system, as all the students are within commuting distance and a school bus system is operated. In the case of out-islands students who attend High School at Saipan, because of the lack of High Schools at their home island, they are provided a stipend by the school system, and reside in private residences in Saipan.

(8) Public Affairs: Fiscal Year 1977, $127,000; Fiscal Year 1978, $154,100; an increase of $27,100. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$ + 2,500	-	$ 19,000	2	Administration--provision made for within-grade increment, plus increase in all others.
(ii)	+ 900	-	5,700	1	Public Information--increase for within-grade increments, plus small increase for supplies and materials acquisitions.
(iii)	+ 700	-	38,500	8	Broadcasting--provision for within-grade increments plus small increases in requirements under other service and supplies and materials. (Decrease in equipment purchasing).
(iv)	+ 1,100	-	7,800	1	Civic Affairs--provision for within grade increments.
(v)	+ 5,600	-	27,800	4	Legislative Liaison--provision made for within-grade increments, plus small increase in requirements for travel, printing and reproduction, other services, and supplies and materials.
(vi)	+11,200	-	37,300	5	Community Development--provision made for within-grade increments plus increase in requirements under travel, print-

	Amount	Positions	Total Program	Total Positions	Explanation
					ing and reproduction, renovation of office space and purchase of a vehicle.
(vii)	$+ 5,100	-	$18,000	3	Community Development-Grant-In-Aid--provision for within-grade increments, plus increased costs for materials and equipment required to support self-help projects in sparsely populated areas, including procurement of a vehicle.
	$ +27,100	-0-	$154,100	24	

There are no significant increases in funding for activities in this Department, with no manpower increase programmed. Although no significant increase is programmed here, it is hoped that the inevitable increased costs and activity of "public affairs", necessitated by the new and evolving Political Status of the Northern Marianas, as it moves towards a U.S. Commonwealth Status, will be funded from other sources, such as legislative appropriation, special funding for political status developments, etc..

DEPARTMENT OF PUBLIC AFFAIRS FUNDING

Program	FY 1977 Estimate	FY 1978 Estimate	Change
1. Administration	$16,500	$ 19,000	$+ 2,500
2. Public Information	4,800	5,700	+ 900
3. Broadcasting	37,800	38,500	+ 700
4. Civic Affairs	6,700	7,800	+ 1,100
5. Legislative Liaison	22,200	27,800	+ 5,600
6. Community Development	26,100	37,300	+11,200
7. Grant-In Aid (Community Dev.)	12,900	18,000	+ 5,100
Total	$127,000	$154,100	$ +27,100

1. Administration (Office of the Director), +$2,500; total $19,000.

The Department of Public Affairs is made up of five basic divisions, namely: (1) Public Information; (2) Broadcasting (radio); (3) Civic Affairs; (4) Legislative Liaison and (5) Community Development. Community Development also administers a "Grant-In-Aid" program for locally-oriented community projects.

The basic "thrust" of this Department is in the vital areas of political, community and social development programs, as well as in "public affairs", in its literal sense, relating to such areas as public education in political development, public relations and public information and in community-oriented areas, such as recreation, youth organizations, senior citizens programs, improvements in community facilities, low-cost housing, etc..

With the approval of eventual U.S. Commonwealth Status for the Northern Marianas, and the separation from the Trust Territory of April 1, 1976, a great deal of increase in autonomy, authority and responsibilities is taking place in the executive/legislative functions of the Northern Marianas Government. The Department of Public Affairs, in all its component activities, plays and will continue to increasingly play a major coordinative, liaison, advisory and assistance role in this exciting and historic development.

The Constitutional Convention is scheduled to begin mid-October, 1976 for 50 days, and it is now anticipated that approval of this Constitution by the U.S. Government (after a favorable local referendum) will be in mid or latter 1977. An intensive program of public information and education on this new form of government will then be launched. A chief executive will be elected, and the executive wing-re-organized. Continuing education and development towards the eventual Commonwealth status will be continued and intensified.

The Department of Public Affairs is headed by a Director, a local citizen, who performs, a directive, supervisory, coordinative, organization and planning function for the entire Department. This category of the Budget Estimate provides, basically, for his salary and related costs and for his clerk-typist and for costs of operating this administration office, such as travel costs, supplies, etc..

2. Public Information, +$900; total $5,700.

This activity is primarily charged with the dissemination of information, primarily as to functioning of the Government entities of the Northern Marianas, but also as to "doings" of the Northern Marianas, as a whole. Normal "media" of

information dissemination are news services (such as the Trust Territory's Micronesian News Service (MNS)), the press, television and radio outlets. The Marianas Public Information Officer is, in effect, the "Press Secretary", for the Resident Commissioner and eventually, the Governor, of the Northern Mariana Islands. This activity also prepares the Annual Report to the United Nations and the Secretary of Interior, and such other reports as may be requested. The need for "public information" service is expected to accelerate greatly, as the Northern Marianas go through the various stages or phases, leading to eventual Commonwealth Status.

3. Broadcasting, + $ 700; total $38,500.

This activity, as presently constituted, is made up of the management and operation of the government-owned long-wave (AM) radio broadcast station, KJQR. Radio Station KJQR, located at Saipan, operates on a transmitting power of one KiloHertz, (1000 Watts) and, in addition to being received throughout Saipan, can be received at Tinian, and under good conditions, also at Rota, in the Northern islands, by ships at sea in the vicinity, and under optimum conditions, at Guam.

The radio station operates 18-hours per day (6 a.m. to midnite), 7 days per week. It provides, in addition to programs of entertainment, important services to the community in dissemination of public notices and information, news broadcasts (international, national and local) and local "live" broadcasts, such as proceedings of the Legislature and Municipal Councils, local interviews, special events, etc., disaster alerts, information and warnings are also broadcast. The primary language of broadcast is English, but the vernacular (Chamorro and Carolinian) are also utilized when deemed appropriate.

Radio Station KJQR is not the sole broadcast media in the Northern Marianas, as a commercial radio station (WSZE Radio, operating from leased space in the KJQR building and with joint use of the transmitting antenna); WSZE Television (commercial) and a commercial Cable Television system also share in media disseminations.

4. Civic Affairs, +$1,100; total $7,800.

This activity is an integral part of the general efforts towards improved political development and awareness in the Northern Mariana Islands. Its efforts are focalized to the development of programs of civic education and public information in the political and governmental spheres, aimed at the development of the citizenry of the Northern Marianas, in greater awareness and participation in these vital areas.

Specifically, this involves the gathering, evaluating and organization of appropriate political and governmental development information, as well as fostering of programs in citizenship training through conferences, seminars, training sessions, etc..

With the movement of the Northern Marianas, by various interim stages towards an eventual U.S. Commonwealth Status, the need for political and governmental education assumes a greater and more urgent need.

Although this particular activity is very minimally funded, it is anticipated that the greater bulk of funding needs for these vital programs of civic development will be funded by other services, such as legislative appropriations, special training funds, etc..

5. Legislative Liaison, +$5,600; total $27,800.

This activity is, in essence, the "link" between the executive offices (Resident Commissioner and ultimately Governor) and the legislative wings of Northern Marianas Government, which would include the Legislature of the Northern Mariana Islands and the 3 Municipal Councils (Saipan, Rota and Tinian), as well as a coordinative and liaison entity with the Congress of Micronesia, and Legislatures and Municipalities of other Districts.

In carrying out this function, this activity performs the basic action of receiving and reviewing proposed legislations and resolution of the Legislature and Municipalities, processing such legislation for staff reviews and of making recommendations to the Chief Executive as to actions that should be taken, as well as duly notifying the legislature and council of executive determinations. When deemed desirable, this activity assists the Chief Executive and other Northern Marianas executive and administrative offices in the submittal of "administration requests" to the legislature and councils.

Other functions of this activity involve the coordination and assistance required on local elections (legislature, councils, referendum, plebiscites, etc.) for the Election Commissioner (usually the Resident Commissioner); assistance in compilation of district laws, etc., preparation of pertinent reports and analysis on legislative developments, etc..

With the movement of the Northern Marianas toward U.S. Commonwealth Status, and the various evolutionary and development stages therein entailed, the Legislative Liaison activity is one of the key functions in the political maturity of the Northern Marianas Government.

83-561 O - 77 - 85

6. Community Development, +$11,200; total $37,300.

This activity within the general sphere of the Department of Public Affairs is concerned, as the name of the activity indicates, in "community development" program efforts. The prime thrust, of this activity, is to work at the "grass-roots" community and village levels, on a direct people-to-people basis, in channeling and development of the populace and their communities towards self-betterment and improved standards of living and environmental awareness.

Included in the activity of this division are such community-level efforts, such as environmental health improvements; political, economic and social development programs; recreational and sports programs; aged and infirm persons assistance and interest programs; youth and juvenile delinquency-curbing activities; women's interest and development programs; improvement in home-dwellings programs (low-cost housing; etc..).

The Budget provided for this activity in this category is primarily for staffing and normal administrative costs - including the purchase of a badly needed vehicle to provide mobility to the various community areas. There are several Federal Programs specific funding, also administered by this activity which are not included in this budget amount.

In addition, the Community Development Division administers a "Grant-In-Aid" program, to be utilized in the matching-funds development of desirable community facilities. This is funded in a separate category, further described in the next section.

7. Grant-In-Aid (Community Development), +$5,100; total $18,000.

This activity is a component part of the general Community Development Division of the Northern Marianas. "Grant-In-Aid", as here utilized, refers to the providing of funding assistance to the communities where a need exist for community facilities and/or programs or services, but where local funding capabilities are inadequate to provide these facilities or programs. Examples are recreational facilities, community halls, sanitary facilities, youth and aged facilities and programs, etc..

The basic "grants" are usually provided by Federal Program grants, legislative or municipal grants, and other sources. Usually these "grants" require matching funds, which are sometimes provided by the Legislature and/or Municipalities, either in cash or "in lieu" services and other contributions. Grant-In-Lieu, especially Federal Grants, usually require fairly detailed and complex project proposals and accountability records keeping, as well as periodic reports.

Government of the Northern Mariana Islands

This Budget category provides for the technical and administrative staffing and related costs, for administration of the Grant-In-Aid programs. Under the direction and supervision of the Community Development Officer, there are 3 Grant-In-Aid Officers, one each at Saipan, Tinian and Rota. These officials not only assist in projects and program requests development, but also take part and actively participate in programs and facilities construction supervision and monitoring.

This budget estimate is only for this management and operations force, and does not include the actual "grant-in-Aid" funds themselves.

(9) Resources and Development: Fiscal Year 1977, $622,100; Fiscal Year 1978, $ 906,700; an increase of $284,600. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$ +107,200	+6	$511,200	71	Agriculture--provision of within-grade increments, plus transfer of plant Pathology and Veterinarian staff from TT Headquarters. To provide fund to procure necessary additional farm equipment and to continue expansion of agricultural programs to meet increased production goals.
(ii)	+ 8,600	+1	48,000	8	Economic Development--to provide for annual within-grade salary increment, plus addition of position to more effectively cope with increase in workload, in view of growing economy.
(iii)	+ 33,400	-1	197,200	30	Lands and Surveys--to provide for annual within-grade salary increases, and to provide fund for contracting out of some surveying work with private surveyors.
(iv)	+133,000	+29	133,000	29	Land Commission--to provide for funding of this activity at the Government of Northern Marianas level. At present, funded and managed at Trust Territory level. Will be transferred to GNMI in FY'77 by transfer of funds from TT to GNMI.

Government of the Northern Mariana Islands

	Amount	Positions	Total Program	Total Positions	Explanation
(v)	$+ 2,400	-	$ 17,300	3	Exployment services (Labor)--provision for annual within-grade increment of salary, plus providing of more adequate funding in supplies, equipment and other costs.
	$+ 284,600	+35	$906,700	141	

The Resources and Development shows an "increase", which is more apparent, than real, in that full-funding provision is made in FY 1978 for the absorption of the "Northern Marianas Land Commission" funding, in the amount of $133,000 and for the taking over of the Plant Pathology and Veterinarian functions in Marianas Agriculture, which were funded and administered at the Trust Territory Headquarters level up to Fiscal Year 1977. Of the $107,200 increase shown in Marianas Agriculture, a large portion can be attributed to this absorption of the Plant Pathology and Veterinarian functions.

In all probability, the transfers of the Land Commission and the Plant Pathologist/Veterinarian functions and funding will take place at the beginning of Fiscal Year 1977. However, due to the fact that the then Marianas District was still considered a part of the Trust Territory as a whole, in Fiscal Year 1977, the present distribution of funding still incorporates these activities at the Trust Territory Headquarters funding level, and it will be necessary that funding be transferred from the Trust Territory Government to the Northern Marianas Government in Fiscal Year 1977, together with transfer of functions.

PROGRAM DESCRIPTION

The program of Resources and Development involves one of the most vital program in the growth and development of the Northern Marianas towards an improved standard of living, towards greater self-reliance and general economic and social growth. Included within this vital program area are programs related to the precious land resources of this area, both as to proper and optimum utilization of public land, and programs of land ownership and boundaries determination, and the necessary recordation and filing of these land ownership documentation.

Government of the Northern Mariana Islands

Together with the exciting movement towards an improved political status for the Northern Marianas, as it moves toward an eventual and long-sought U. S. Commonwealth Status, there has been a tremendous upsurge in economic activities here, in the past 10 years. A major factor, in this recent economic boom, has been a tremendous boom in tourism, an upsurge in tourist visitations, predominantly from Japan, which has swept up both the neighboring U. S. Territory of Guam and the Northern Marianas (primarily Saipan), into an acceleration of tourist-related facilities and activities, as well as general commercial and mercantile development, far beyond expectations.

In tune with this greatly accelerated aura of economic development throughout this area, the agriculture program is continuing to be given full emphasis and priority and is showing a steady pattern of growth and improvement. It is fully recognized that the "boom" period of tourism, although a very welcome one from the standpoint of injecting large sums of badly needed cash flow into the area, and providing great stimulative influence upon present day mercantile and commercial growth, is a volatile and changeable one, and that the basic economy of these islands must still have a strong foundation in such basic areas as agriculture, fisheries and other locally-based industries.

Governmental efforts toward stimulation and maintenance of these vital resources and development program are in such areas as agricultural development, land management, marine resources development programs, alien labor controls business assistance and advisory programs, foreign investment controls, tourism development and stimulation programs, etc.. The various development and production loans play major roles in economic stimulation and maintenance programs.

RESOURCES AND DEVELOPMENT FUNDING

Program	FY 1977 Estimate	FY 1978 Estimate	Change
1. Agriculture	$404,000	$511,200	$+107,200
2. Economic Development	39,400	48,000	+ 8,600
3. Lands and Surveys	163,800	197,200	+ 33,400
4. Land Commission	-0-	133,000	+133,000
5. Employment Services (Labor)	14,900	17,300	+ 2,400
Totals	$622,100	$906,700	$+284,600

Government of the Northern Mariana Islands

1. Division of Agriculture, +$107,200; total $511,200.

The primary functions and objectives of the Marianas Division of Agriculture is to develop the agricultural economy of the Northern Mariana Islands, both from the standpoint of increasing self-sufficiency by production for local consumption, and from the standpoint of developing a viable commercial agriculture program, both for internal consumption and for external exports, the prime buyers being in Guam, and hopefully, eventually in Japan. Intensive efforts are being made to open up Japan as an export market for Northern Marianas produce, with quarantine restrictions in Japan a major draw-back. The prime "crops" and production in the Northern Mariana Islands are in vegetables (onion, eggplants, tomatoes, cucumber, beans, cabbages, etc.), in fruits and citrus (melons, watermelons, lime, etc.), and in cattle and poultry products. Copra production and exports are basically limited to the northern islands, and of a small quantity and does not occupy a major position in the agricultural economy of the Northern Marianas, as it does in other Districts of the Trust Territory.

The Division of Agriculture is basically divided into a Plant Industry Section and Animal Industry Section and also carry out several collateral and related programs to these basic Sections, such as quarantine activities at port of entries, animal quarantine and veterinary services, plant pathology services, entomology and horticultural services, etc.. This activity also actively engages in capital development programs of assistance to farmers, such as development of irrigation systems, with good starts already made at Rota and Tinian, construction of or inspection and assistance in construction of refrigeration and freezer facilities, in coordination in management of marketing programs, such as the program marketing produce to military markets in Guam, and to other outlets in assistance of the farmers in obtaining of necessary seeds, fertilizers, etc., in the rental of farm equipment to farmers, and in many other programs which would aid and stimulate the development and improvement of the agricultural economy in the Northern Marianas. Government slaughterhouses have been built in Saipan and Rota; and at Tinian, this service is provided by the approved slaughterhouse facility of a private concern. A staff of extension agents are maintained by the Division of Agriculture, who work directly with the farmers in agricultural education and improvement projects.

Rota and Tinian islands are recognized to be major agricultural producers and emphasis are given to these islands in the agricultural programs of the Northern Marianas. Agricultural stations are maintained at these islands, and are fully staffed, equipped and supplied, within the limitations of the total available funding for the Division of Agriculture. Rota, Tinian and Saipan all maintain equipment services, extension services, farm store and plant and animal quarantine programs. The central office of agricultural administration and management is maintained at Saipan, and provides technical and specialized assistance to the programs at Rota and Tinian, as well as administer the program at Saipan. The northern islands are visited about once every quarter, on Field Trips, by the Agricultural Division, and agricultural program assistance provided.

Prior to the separation of the Northern Marianas from the Trust Territory on April 1, 1976, the functions of a Staff Plant Pathologist and a Staff Veterinarian (and their laboratories and offices) were managed and funded at the Trust Territory Headquarters level, and the Marianas received the services of these activities along with the rest of the Districts. Beginning with Fiscal Year 1977 (October 1, 1976), the Plant Pathology officer and program has been incorporated within the Agricultural Division Budget Estimate. This was accomplished without any transfer of funding from the Trust Territory to the Northern Marianas, and involved an increase of Division of Agriculture costs by approximately $45,000, as between FY 1977 and FY 1976.

The function, organization and laboratory of the Staff Veterinarian will be absorbed by the Northern Marianas Division of Agriculture in FY 1978, at a total cost of an estimated $65,000. As the cattle and other livestock industry is a major industry in the Northern Marianas, it is felt imperative that a staff Veterinarian be engaged by the Marianas Division of Agriculture, on a full-time basis. Since the FY 1977 Budget Estimate does not provide for funding of the Staff Veterinarian, this inclusion of the full funding for this activity in the FY 1978 Budget Estimates shows as an "increase" of $65,000 (as compared to FY 1977), and accounts for most of the increase indicated for the Division of Agriculture.

Aside from the addition of the Staff Pathologist and the Staff Veterinarian, as described above, the Marianas Division of Agriculture added an Entomologist and his laboratory and functional costs prior to the separation of the Northern Marianas (which occurred April, 1976) and a Horticulturist in Fiscal Year 1976, both of which positions are continued in Fiscal Year 1978. The Horticulturist will assist the farmers in developing of a program in export production in bananas, pineapple and flowers.

Government of the Northern Mariana Islands

2. Division of Economic Development, +$8,600; total $48,000.

In this activity is focalized and centralized the entire direction, supervision and guidance of the vital and diverse economic development programs of the Northern Marianas Government. In recognition that the ultimate and long-range well-being and growth of the entire Northern Marianas hinges upon increasing development and exploitation of natural resources, skills and capabilities, and a lessening of dependence upon outside assistance and controls, the Division of Economic Development carries out a wide array of programs in resources development, in commercial and mercantile stimulations, including the major areas of tourism; in foreign investments and alien labor management and controls and in many other diverse areas.

The Division of Economic Development is headed by a Marianas Economic Development Officer, a citizen of the Northern Marianas, who is assisted by an Economic Development Specialist, a Tourism Officer and various other administrative, secretarial and clerical staff members. The programs of Economic Development are also extended to Rota and Tinian.

Programs of Economic Development include, at the present time, the following major areas:

1. Promotion and stimulation of the vital areas of Tourism. This includes participating with and working closely with the Marianas Visitors Bureau, in various promotional programs, and working cooperatively with major tourism facilities, such as the Saipan International Airport, major hotels and tourism organizations.

2. Actively supervise and manage the Foreign Business and Investment Program, in accordance with existing Laws and Regulations and to draft and recommend appropriate legislations in this area, where appropriate. The general attitude of the Northern Marianas, as relate to foreign business activities and investments in this area are faborable, provided that such foreign activities are shown to be needed, to be to the best interest of the Northern Marianas and its citizens, and where local participation is shown to be significant at present, or programmed to a significant level in the near future. The reviews and recommendations for approval or disapproval to the Resident Commissioner are carried out by a Foreign Investment Board, of which the Economic Development Officer, at the present time, is the Chairman.

3. Carry out a program of business, commercial, mercantile and industrial development, including such areas as assistance to the business sector in improved practices, such as in bookkeeping, and merchandising; stimulate and assist the growth of cooperatives and credit unions; make studies and analysis relative to the needs for types of businesses and production efforts (including in the areas of fisheries and agricultural development,) advise the community as to these needs and provide assistance and guidances in the formation of businesses and industries to meet these requirements; and provide many other economic development, improvement and stimulation programs.

4. Monitor and work closely with available Economic Development loan funds, to insure that these loans are made available to businesses and industries which would be of maximum values to the general growth of the Northern Marianas, and that the loan program would be properly utilized and managed.

5. Engage in long-range economic planning, working closely with the General Planners, in order that present economic development plans goals and objectives would be in harmony with what can be visualized as long-range growth programs and potentials for the entire Northern Mariana Islands.

6. Provide technical assistance and guidance to the Marianas Fishing Authority, which is comprised of the Saipan Fishing Coop, the Rota Fishing Coop and the Tinian Fishing Coop. There is no specific Grant Funds allocations to the Marine Resources development program, at this present time. The Marianas Fishing Authority was formed, with a grant from the Congress of Micronesia, and it is anticipated that continuing funding for this activity will be obtained from the Legislature and/or possible other funding assistance areas. Although the Marine Resources industries are in early growth stages, at present, it is anticipated that greater exploitations and benefits from the valuable marine resources surrounding these islands will take place, in the near future, and that greater participation by the Northern Marianas Government in Marine Resources programs can be readily anticipated. (Note that the Economic Development Loan Fund made available by the Covenant terms, specify that a significant portion of the loans be specifically earmarked for fisheries development loans.)

3. Division of Lands and Surveys, +$33,400; total $197,200.

The Marianas Division of Lands and Survey is the prime organization within the Government of the Northern Mariana Islands in the administration and management of public lands, and in providing technical and advisory services to the Resident Commissioner and others concerned, in both the administration of Public Land and in the protection of private lands, primarily from alienation of land to outside entities and persons. This activity is headed by a Land Management Officer, who is also the Land Titles Officer for the Northern Marianas. The Land Management Officer at the present time, is a U.S. citizen, who is assisted by a Marianas District Surveyor, a citizen of the Northern Marianas, and a staff of a technical advisors (in surveying), cartographic technicians, surveyors, realty specialists, engineering aides, land title investigators, as well as administrative and clerical personnel. This activity also engages in contracted work, as required, primarily in such areas as surveying and map-making.

The Division of Lands and Survey is responsible for the administration, surveying and mapping of all public lands within the Marianas, as well as in support of the program of surveying and mapping of private land by the Land Commissions land registration program and the Land Cadaster program. The Lands and Survey Division also participates actively in the Capital Improvement Program of the Northern Marianas Government, as in the selection and designation of sites for public facilities, working closely with the Marianas Planner and the Department of Public Works.

In the private sector areas of involvement, the Lands and Survey Division advises the Resident Commissioner as to the approval/disapproval of foreign requests for lease of private lands within the Northern Marianas, as leases of private land by foreign ventures require the approval of the Resident Commissioner's to forestall land alienation to foreign interests. Leases of public lands to local and foreign interests are also administered by the Lands and Survey Division, with the approval of the Resident Commissioner.

One of the major programs of the Lands and Survey Division is the administration of the Homesteading program. This is a program involving the making available public land to the citizens of the Northern Marianas either in village or in agricultural homesteads, under stipulated conditions.

There is a tremendous backlog of homestead actions that must be acted upon, with the greatest difficulty in keeping up-to-date with the surveying and mapping requirements. The involvement and diverting of the Lands and Survey Division efforts towards the Land Registration and Cadastral programs have further aggravated the situation, causing an even greater backlog in homesteading requirements. It is now estimated that the "backlog" of surveying and mapping, in both the homestead program and land registration program areas, will take 20 years to catch up with.

In December, 1974, the U.S. Secretary of the Interior issued Secretarial Order Number 2969, stating that any District of the Trust Territory which desired to take over Public Land Management, could do so by establishing a "legal entity" within that District, to take over such public land administration and management. The then Mariana Islands District Legislature (now the Legislature of the Northern Mariana Islands) responded, in the early part of 1975, by passing Act#100-1975, to accomplish this take-over of public land administration by a public corporation. This Act was approved by the Marianas District Administrator. However, to this date, no action has been taken on this take over of public land by the local entity or public corporation therefor established. The "take-over" of public land administration and management will, of course, have a major impact upon the organization, functions and funding of the Marianas Division of Lands and Survey.

Government of the Northern Mariana Islands

4. Marianas Land Commission, +$133,000; total $133,000.

Land Commissions were established by the Trust Territory Government for all Districts of the Trust Territory (except the Marshall District), pursuant to the provisions of Title 67 of the Trust Territory Code, Sections 101 to 120. This is a codification of Congress of Micronesia Public Law No. 2-1, dated September 2, 1966. The Marianas Land Commission was organized in August 22, 1976.

The purpose of the Northern Mariana Land Commission is a systematic and geographical approach to the investigation and determination of all land in the Northern Marianas, and thus, serve a quasi-judicial land court function, as well as an investigative and determination function. The investigative arm is primarily in Land Registration Teams, made up of residents of the areas under consideration, who made their findings to the Land Commission, who make final determination as to land ownership. Determinations of the Land Commission can be appealed to the Trust Territory High Court, under certain conditions. At the present time, there are 32 staff members on the Land Commission itself (inclusive of administrative and clerical employees), with the 4 Registration Teams, consist of a total complement of 24 Land Title Investigators.

Because of the nature of this Commission, the funding and organization of the Land Commissions throughout the Trust Territory was treated as a Trust Territory Headquarters entity, and funded accordingly. With the separation of the Northern Marianas on April 1, 1976 (i.e., during Fiscal Year 1976), it was decided that the Northern Marianas Land Commission would be continued, from a budgeting and accounting standpoint, as a Trust Territory Headquarters entity, because of the difficulty in separating the necessary funds. This also holds true, in the current Transitional Quarter of FY 1976, running from July 1 - September 30, 1976.

With Fiscal Year 1977, beginning October 1, 1976, the budgeting and accounting for the Marianas Land Commission will be transferred to the Government of the Northern Marianas. However, since the FY'77 Budget Estimates were submitted by the Trust Territory inclusive of the Marianas District, and allocations to TT Headquarters and the District accordingly made out, the TT Headquarters allocation still included the

This allocation will be added on, to whatever pro-rata share of the existing EDLF fund (TT), which can be negotiated and attributed to be the Northern Marianas share. The exact modus operandi of the new program augmented loan program has not yet been finalized.

Also under terms of the Covenant, $607,000 has been earmarked each year which will be used as loan to farmers and fishermen or to agricultural and marine cooperatives. The intent of the program is to provide the necessary economic development loans to Marianas citizens as well as cooperatives with the objective of promoting and encouraging the development of commercialized agricultural and marine activities. It is believed that only through a government low-interest loan program can farmers and fishermen as well as cooperatives in these two areas will be encouraged to revert to local production and to discourage the dependence of imported goods. Funds under this program will be administered by an economic development loan board which will review all economic development loan applications to ensure that program proposals for loans are viable, productive and beneficial toward achieving ultimate self-sufficiency.

Also Under Article VII, Section 702(c) of the Covenant, $303,000 has been earmarked each year for a special program of low-interest housing loans particularly for low-income families. The intent of this program is to make available to those families that fall under the "low income bracket" funds for the construction of safe, decent, and sanitary dwellings. The administration of the $303,000 for low-interest housing loans will be assigned to the existing Mariana Islands Housing Authority until a new government housing entity or board is formed during the constitutional government phase. Approximately 90% of private housing in the Marianas are considered sub-standard when viewed from the standpoint of the U.S. minimum property standard (MPS) for housing. The funds to be made available under this subsection will be used as direct loans to individual applicants or as loan collateral to banks from which additional funds for a low-interest housing program may be borrowed over a long-term period. Under a direct loan basis, it is expected that of the $303,000, approximately 20 houses per year can be built but if the funds are used as loan collateraal with private financial institutions, approximately 80 low-cost homes can be constructed throughout the principal islands of the Northern Marianas. The income form the repayment of these loans will be used as revolving funds from which additional monies may be loaned to other low-income families.

Marianas Land Commission. For this reason, the Marianas allocation for FY 1977, as presently structured, does not include the Land Commission, and the full-funding in FY 1978 for this activity of $133,000, therefor, shows as an increase, in totality. This, of course, is not an actual program increase, but is due to a budgeting peculiarity.

Prior to the beginning of Fiscal Year 1977, an agreement will be reached with the Trust Territory as to the FY 1977 funding for the Northern Marianas Land Commission, and this amount will be transferred by the Trust Territory Government to the Northern Marianas Government. It is anticipated that this amount of transfer will be substantially the same as that programmed for FY 1978, and that, in effect, the FY 1978 allocation for the Northern Marianas Land Commission reflects virtually no increase from the FY 1977 level.

5. Employment Services (Labor), +$2,400; total $17,300.

The Employment Services Officer was initially conceived and legislated by the Congress of Micronesia, under Public Laws 3C-44 as amended, which was codified within the code of the Trust Territory as the Protection of Resident Works Act, Title 49. The basic purposes of this legislation and Office were twofold; the protection of the local labor forces by administration of the Alien Labor controls program; and to serve as an employment service for local citizens, by placement efforts, by manpower studies to determine areas of needs, etc..

In its "alien labors controls" program, the Employment Service Officer plays a vital role in the screening of Alien Labor importation requests, to insure that such requests are not at the expense of denying employment from qualified local applicants, that alien labor importation meet requirements and regulations, such as health certificates, appropriate entry documentation, proprer documentation of labor contracts, etc.. The Employment Service Officer makes continuing studies and survey of the local alien labor population to insure that there are no abuses, either of the Alien Labor regulations or in the treatment of the imported alien laborers.

In its "employment services" aspect, the Employment Service Officer maintains a constant survey and analysis of local employment requirements, as well of available manpower resources, and bring potential employers and employees together. In this

respect, an ongoing program is the development of an automated Data Base Information System, which provide up-to-date information on job requirements, manpower availability, alien labor population, etc., for utilization in the best employment of the local labor forces and to provide employers with expeditious, good placement assistance.

One of the key roles that will be played by the Employment Service, in the near future, will be proper placement of Northern Marianas citizens in new positions, either at the governmental or private sector level, should the Trust Territory Headquarters move from Saipan, creating a loss of job for a large number of Northern Marianas citizens presently employed by Trust Territory Headquarters. The number involved is expected to be around 500 employees.

(10) Office of the Attorney-General: Fiscal Year 1977, $440,500; Fiscal Year 1978, $549,500; an increase of $109,000. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
1.	$+ 54,200	+3	$ 64,200	5	Legal Affairs--provides for annual within-grade increment of salary, plus establishment of 3 new positions required to meet the expanding caseload and legal services requirements under separate administration of the Government of the Northern Mariana Islands
2.	+ 49,900	-	426,700	73	Public Safety--provides for annual within-grade increments of salary increases.
3.	+ 4,900	-	58,600	13	Immigration--provides for within-grade increment of salary.
	$+109,000	+3	$549,500	91	

83-561 O - 77 - 86

Government of the Northern Mariana Islands

FUNDING FOR THE OFFICE OF THE ATTORNEY- GENERAL

	Program	FY 1977 Estimate	FY 1978 Estimate	Change
1.	Legal Affairs	$ 10,000	$ 64,200	$+ 54,200
2.	Public Safety (Police & Fire)	376,800	426,700	+ 49,900
3.	Immigration & Consular Services	53,700	58,600	+ 4,900
	TOTAL	$440,500	$549,500	$+109,000

1. Legal Affairs: $+ 54,200, total $64,200.

This Division of the Office of the Attorney-General provides the basic legal services for the Resident Commissioner and the Government of the Northern Marianas, and such other public organizations that need these legal assistance, such as the Legislature of the Northern Mariana Islands, the Municipal Councils, and others. This "legal services" extend to such areas as criminal prosecution; acting for the Government in civil and other legal cases, including land matters; providing legal reviews and assistance in various contracts and agreements entered into by the Northern Mariana Government; assist in the drafting of official promulgations, executive and administrative directives, as well as proposed legislations, for submittal to the Legislature and/or Municipal Councils; review proposed legislations of the Legislature and/or Municipal Councils, and makes recommendation to the Resident Commissioner as to legal sufficiency and desirability, and performs many other legal functions for the Government, including providing advice to the Resident Commissioner and staff as to a wide range of legal matters.

The Office of the Attorney General is headed by the Northern Marianas Attorney-General, who is funded for in the category entitled "Legal Affairs", in this presentation. (Organization and funding structure may change prior to FY 1978, as a result of re-organization and Constitutional actions.) Also included in this category are an Assistant Attorney, and 2 Prosecutors, as well as a clerk. The incumbent Attorney-General is a U. S. citizen, who reported in September 1976. Prior to his arrival, the general supervision of this category was being handled by a U. S. District Attorney, funded at the Trust Territory Headquarters level, and detailed to the Northern Marianas Government.

Government of the Northern Mariana Islands

The Attorney-General exercises general supervision and authority over the Marianas Public Safety Division (Police & Fire) and the Marianas Immigration Service...but not including the Consular Service aspect of this latter organization, which is under the direction and supervision of the U. S. Consular Officer.

The increase in the Attorney-General budget is primarily attributable to funding of the positions of Attorney-General, the Assistant Attorney and one of the Prosecutors, none of which items appoared in the FY 1977 Budget distribution to the Northern Marianas. The establishment of the position of Attorney-General at the Northern Marianas Government level, is a result of the separation of the Marianas from the Trust Territory, as of April 1, 1976, and the movement of the Marianas towards an eventual U. S. Commonwealth Status. When the Marianas was still an integral part of the Trust Territory Government, there was no Marianas Attorney-General, as that title was reserved for the Attorney-General at Trust Territory Headquarters. The senior legal officer in the "District" of the Marianas, was the District Attorney. The position of District Attorney was actually also on the Trust Territory Headquarters staff of the Attorney-General, and detailed to the Marianas District, and therefore, the funding and organization of this activity did not appear in the Marianas budget. For this reason, the FY 1978 installation of the positions of Attorney-General and Assistant Attorney in the Marianas reflect as increases over the level of FY 1977. It will be necessary to transfer funds from the Trust Territory to the Government of the Northern Marianas in FY 1977, at least to the extent that would have been required to make a formal transfer of the District Attorney position to the Northern Marianas Government.

2. The Division of Public Safety (Police & Fire):
$+ 49,900, total $426,700.

The Division of Public Safety has the basic responsibility, for the Government of the Northern Marianas, to maintain an orderly and law-abiding society, protected from criminal and other socially undesirable elements (including incarceration of offenders) and carrying out human rehabilitation programs; for protection and assistance, in the cases of natural disasters, such as fires, flooding, typhoons, etc., for vehicular traffics management, including vehicle safety inspections, to eliminate from the streets, vehicles which are safety hazards; perform ceremonial and service roles, such as honor guards, driver services for VIP; to provide property and persons security guard, when needed, and to perform many other functions to assure the populace of a peaceful existence in an orderly society.

The Division is made up of four basic sections, viz: (1) Administrative Services; (2) Police Patrol; (3) Detective and Investigations Section and (4) Fire Fighting. The main police and fire headquarters is located at the Civic Center in Saipan, and contains the offices of the Chief of Police and the Fire Chief. The Division of Public Safety operates a prison, which is also located at the Civic Center. It also operates a fleet of police vehicles, equipped with sirens and police lights, and a fleet of fire trucks, for fire fighting. The Northern Marianas police are armed and uniformed, armament including .38 calibre revolvers, carbines, shotguns and M-1 semi-automatic rifles. The activities of Public Safety cover a wide range of functions, which include such diverse areas as: criminal investigation and prosecution; youth and juvenile programs; fire prevention and fire fighting; traffic management and investigations; search and rescue of both persons and vessels; airport security, harbor patrol, security services, ceremonial functions and many others.

The Division of Public Safety is headed by a Chief of Police, a citizen of the Northern Marianas, who was appointed by the Resident Commissioner. (Actually, he was appointed by the High Commissioner during the Trust Territory period, and his appointment confirmed by the Resident Commissioner).

Police and fire activities are also carried out at the sub-District Centers of Rota and Tinian, with uniformed, armed and equipped police officers stationed at those areas. Both islands have jails for incarceration of those that need to be. Police functions are carried out at the northern islands, by visitations of police officials on the quarterly field trips.

3. Immigration and Consular Services: $+ 4,900, total $58,600.

Although an oversimplification in statement of functions and responsibilities, it can be stated that the Marianas Immigration and Consular Service provide the following basic services: (1) The processing of immigration and emigration requests; (2) Processing of applications for Trust Territory passports; (3) Administration and inspections in the program of entries into the Northern Marianas by non-citizens of the Trust Territory; (4) Surveillance, inspection and administration of the program of foreign vessels and aircraft entries; (5) A wide range of U. S. consular functions, mainly involving the issuances of U. S. visas, both to local citizens, and Third Country

Nationals who make application at this consular post, processing of U. S. passport applications by U. S. citizens and processing of permanent residence or other immigrant status applications, when applied for at this post.

At the present time, the Government of the Northern Marianas does not have a passport, and passports for citizens of the Northern Marianas are still issued by the Trust Territory Government, as technically, the Northern Marianas is still a part of the Trust Territory, although separately administered since April 1, 1976. The bona-fide resident citizens of the Northern Marianas will become either U. S. citizens or U. S. nationals with the attainment of U. S. Commonwealth status, and presumably, U. S. passports will be issued to citizens of the Northern Marianas.

Entry permits are still required of non-Trust Territory citizen entrants into the Northern Marianas, whether for employment, business or visit. These entry permits are issued by the Immigration Service. The entry permits for bona-fide visitors (tourists) have been greatly simplified, with the entry form issued by the carrier, and not requiring pre-approval of the Immigration Service. This was done to facilitate and encourage tourist entries. Entries for long-term visits, for employment purposes (other than Governmental employment) require that application be made and entry permit be issued, prior to entry.

In respect to these entries, both by air and sea, the Immigration Service carry out entry inspections at the Saipan International Airport, at Rota and Tinian Airports, and at the seaports of these three areas. With the large increase in service, largely brought about by the big upsurge in Japanese tourist travel to the Northern Marianas, the air and sea port inspection service has assumed a major proportion and seriously tax the resources of the Immigration Service. In addition to increas- in air services, including many charter flights from Japan, with large number of tourists, Saipan is called on, in increasing frequency, by large tour ships, adding greatly to the workload of the Immigration Service.

U. S. Consular function occupies a large percentage of the activities of this Service also. Although the U. S. Consular Officer is situated and funded in the Office of the Resident Commissioner, basic technical, administrative and clerical services for this function are provided by the Marianas Immigration

Service. This includes processing of applications for U. S. Passports; processing of U. S. Permanent Residence applications both by citizens of the Northern Marianas and the Trust Territory, as well as Third Country Nationals who apply at this consular post for such; issuances of various types of U. S. visas, both for citizens of the Northern Marianas and the Trust Territory and for Third Country Nationals who apply.

Immigration Services functions are also carried out at Rota and at Tinian, mainly in the inspection of entry documents of incoming passengers, at both the Airports and at the Seaports. In many cases, the entrants into Rota and Tinian are making their first entries into the Northern Marianas at those points. These out-island Immigration Services also process Trust Territory Passport Applications, and other travel documentations, as may be required.

The major increases in this general category, is the recruitment of an Attorney-General of the Northern Mariana Islands, to assume overall direction and supervision of this redesignated category of "Office of the Attorney-General", replacing the former designation as "Protection To Persons and Property", and to re-structure the entire activity into three basic sections, i.e., "Legal Affairs" (in which category the Attorney General is funded); Public Safety (Police and Fire) and Immigration and Consular Services. The incumbent Attorney-General, a U. S. citizen, took office in September 1976, i.e., during the Transitional Quarter of FY 1976.

In addition to the increase in costs to fund the Attorney-General, provision is made to fund an Assistant Attorney and a Public Prosecutor in FY 1978, all three of these positions located in the "Legal Affairs" Division. There are no other increases in manpower or significant increases in other categories of the "Office of the Attorney-General". Prior to this restructuring, "legal affairs" aspects of this activity were handled by a District Attorney and a District Prosecutor, with the District Attorney, a U. S. citizen, funded out of the Trust Territory Office of the Attorney-General. In FY 1977, due to the nature of budgeting, the funding for the Northern Marianas District Attorney continued to be shown as a Trust Territory Headquarters budgeted item, although the personnel and functions of the District Attorney was transferred to the Northern Marianas, immediately upon Marianas Separation on April 1, 1976. It is anticipated that this fund will be transferred from the Trust Territory to the Northern Marianas in Fiscal Year 1977.

This category of Office of the Attorney-General, especially as relates to its organization and functions, will undoubtedly be a major item for consideration in re-organization of the Executive Branch, with the institution of Northern Marianas Constitutional Government. As no present information is available as to ultimate structuring and organization, the existing "transitional format" is being utilized, in this Budget Estimate.

PROGRAM DESCRIPTION

Grouped within this general heading of "Office of the Attorney-General" are the legal and regulatory activities, public safety and protective services, and the immigrations and consular services. The Northern Marianas Immigration Service provides technical, administrative and clerical assistance to the U. S. Consular Officer, for the Northern Marianas, who is on the staff of the

Government of the Northern Mariana Islands

Resident Commissioner's Office. (At present, the Special Consultant is the U. S. Consular Officer.)

The Legal Affairs Division, which includes the Attorney-General, an Assistant Attorney and two Prosecutors, are the legal arm of the Government of the Northern Marianas, and as such, provide a wide gamut of services for the Government and the populace of the Northern Marianas, in such areas, as representing the Government in civil and criminal cases; in reviewing and making recommendations as to contracts, agreements, other documents with legal implications, legislation, etc., as well as providing advisory and technical assistance to the Resident Commissioner in all areas requiring legal interpretations and decisions. The Attorney-General also provides technical and administrative supervision to the activities of Public Safety and Immigration.

Public Safety, in the Northern Marianas, refer to police and fire divisions activities, including the providing of security and personal guards, as necessary; of carrying out investigations; of providing honor guard and VIP drivers and other ceremonial roles; of managing the vehicular safety program and many other functions of a public safety and security nature.

The Marianas Division of Immigration administers the program of entries regulation to the Northern Marianas, including the inspection of entry documentation at the Air and Sea Ports and of foreign vessels and aircraft entries. Entry into the Northern Marianas still require entry permits, although entries for bona-fide visitors have been considerably simplified. In addition, the Immigration activity processes the requests for Trust Territory Passports, by citizens of the Northern Marianas. Since the Northern Marianas still do not have its own Passport, the citizens of the Northern Marianas still are issued Trust Territory Passports. Also, the Immigration Office provide administrative, technical and clerical assistance to the U. S. Consular Officer, in the processing of applications for U. S. Passports and for U. S. Visas, for acquisition of U. S. Permanent Residence and other immigrant status, and other consular functions. This function is not limited to service to the citizens of the Northern Marianas, but involve servicing large numbers of Third Country Nationals, who wish to enter the United States for various and sundry reasons, mainly to the U. S. Territory of Guam.

(11) General Administration: Fiscal Year 1977, $158,800; Fiscal Year 1978, $271,400; an increase of $112,600. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	+ 11,800	+1	$ 77,900	17	Finance and Accounting--to provide for normal within-grade salary increments and for 1 new position to meet increasing workload.
(ii)	+ 9,300	+1	45,600	7	Personnel and Training--to provide for normal within-grade salary increments and for 1 new position, to meet increasing workload.
(iii)	+ 30,000	-	30,000	-	Employee Housing Lease Fund-- increase attributable to provision for funding for employee leased houses. This category formerly funded Trust Territory level.
(iv)	+ 34,500	-	34,500	-	Personnel benefits fund--to provide for personnel benefits under workmen's compensation insurance, education allowance and other special programs. Formerly funded at TT Government level.
(v)	+ 22,300	+2	49,000	9	Procurement and supply--to provide for normal within-grade salary increments and for 2 new positons; or Procurement Officer and

Government of the Northern Mariana Islands

	Amount	Positions	Total Program	Total Positions	Explanation
					an Assistant. Procurement functions funded at Trust Territory Headquarters level in FY'77.
(vi)	+ 4,700	-	34,400	3	Planning Office-- to provide for normal within-grade salary increments
	$ 112,600	+4	$ 271,400	36	

The significant areas of "increases", as between Fiscal Years 1977 and Fiscal Year 1978 are in: (1) Provision for leasing of houses for employees - $30,000; (2) Provision for Workmen's Compensation Insurance, education allowances, and other personnel benefits - $34,500; (3) A Special Training for new Political Status fund of $304,000, as stipulated in the Covenant for Commonwealth Status. These 3 items account for $368,500 of the total increase of $415,600, and are all attributable to the acquisition of a new Constitutional Government status with FY'78.

In addition, provisions are made for 4 new positons, in the vital administrative services areas of Finance and Accounting (1); Personnel (1) and Procurement and Supply (2). In the case of Supply, the 2 new position are actually to permit full-scale funding of the assumption of procurement functions in FY'78. These personnel increases are felt to be essential (and minimal), as the Northern Marianas assume full management in these areas - some of which functions had been handled by Trust Territory Headquarters, prior to separation.

Government of the Northern Mariana Islands

PROGRAM DESCRIPTION

The "General Administration" category covers, generally speaking, those activities required in a governmental organization to carry out necessary administrative, support and service functions, such as financial and accounting management; personnel management, benefits and training programs; procurement, storage and distribution of necessary equipment, supplies and materials and diverse other "support" functions. The "planning office" is herein included, for budgetary convenience, although it is technically, more of a staff advisory and planning function.

The services of these administrative, support and service organizations extend to all activities and programs of the Northern Marianas Government, and in many cases, extend to services to the general public. These service organizations also carry out full-scale activities at the sub-District centers of Rota and Tinian, with counterpart organizations established at these out-islands, as required. Increasing emphasis is being given to sub-District Center having more autonomous and self-contained administration and management, within the general statement of policies and procedures established by the central government.

Funding for General Administration

	Program	FY-1977 Estimate	FY-1978 Estimate	Change
1.	Finance and Accounting	$ 66,100	$ 77,900	$+ 11,800
2.	Personnel and Training.....	36,300	45,600	+ 9,300
3.	Employee Housing Lease fund	-0-	30,000	+ 30,000
4.	Personnel Benefits funds	-0-	34,500	+ 34,500
5.	Procurement and Supply	26,700	49,000	+ 22,300
6.	Planning Office	29,700	34,400	+ 4,700
	Total.....	$158,800	$ 271,400	$112,600

Government of the Northern Mariana Islands

1. Finance and Accounting, $+11,800; total $77,900.

The Marianas Division of Finance and Accounting carries out a full scope of financial and accounting management and services for the entire Government of the Northern Marianas. The official appropriations, allocations and special funds accounts are maintained by this activity, for all programs and activities of the Northern Marianas, in both the operations and in the capital improvement areas.

In addition, all cash funds of the Northern Marianas Government are managed by this activity, including banking and the maintenance of appropriate cash funds records; disbursements, with appropriate vouchering, check issuances and recordation; invoicing and collections of receivables, etc.. This activity also supervises and coordinate the preparation of payroll time and attendance reports, by all Northern Marianas activities, and insures that payroll data are properly submitted to the Trust Territory Automatic Data Processing Section (ADP) for actual payroll preparation and payments.

Prior to the separation of the Northern Marianas from the Trust Territory, much of the basic accounting and financial management and controls were maintained at the Trust Territory Headquarters level. At the beginning of Fiscal Year 1976, the Trust Territory began measures to revamp the Trust Territory Government's financial management system (including accounting, budgeting and data processing), with the assistance of personnel detailed to this function by the U.S. Department of the Interior. A major facet of this "revamp" is increasing District-level management and operations.

However, the full impact of the new system had not yet taken place, as of April 1, 1976 when the Northern Marianas separated from the Trust Territory. Although allotment accounts (in the programs area) were essentially maintained at the "District" level, many areas, such as maintenance and control of the General Fund, the General Ledger, capital improvement funds, etc., continued to be maintained at Trust Territory Headquarters. No substantial shifts of these functions to the Northern Marianas have been made or will be made until the end of the Transitional Quarter of FY 1976 - i.e., until September 30, 1976.

With FY-77, full assumption of funding, accounting and financial management was undertaken by the Government of the Northern Marianas. It is a monumental task, especially unravelling "prior year obligations", carry forward balances," general ledger balances," etc.

Together with the assumption of full financial and accounting functions in FY 1977 by the Government of the Northern Marianas, it is also anticipated that increasing of accounting and fiscal management functions, authorities and responsibilities will be turned over to the sub-District Centers of Rota and Tinian.

The Marianas Division of Finance and Accounting is headed by a Finance Officer, who is a citizen of the Northern Marianas, assisted by a staff of accounting technicians, accounts clerks and other clerical and secretarial employees.

2. Personnel and Training, +$9,300; total $45,600.

The Marianas Personnel Office carries out a full-scope of personnel management, personnel benefits and training functions, including, but not limited, to such areas as recruitment and placement; employment - employee relations; position classification and compensation; training and employee development; administration of personnel benefit programs, such as workmen's compensation, staff housing, recruitment, termination, and home leave travel, etc..

The Personnel Office is headed by a Personnel Officer, who is a citizen of the Trust Territory, on an employment contract from Ponape, in the Eastern Caroline Islands, assisted by a staff of personnel specialists, Personnel Assistants and clerks.

Personnel management in the Northern Marianas involve various different types of employment situations including local hiring of local citizens; contractual hires of Trust Territory citizens from other areas, due to specialized skills; employment of U.S. citizens, or third country nationals, where local skills are not available, either as contract hires, U.S. Civil Service or local hires, and in some cases, employment on short-term special employment agreements, when the needs arise.

The basic employment standards, classifications, grade and pay levels are still substantially in accordance with the Trust Territory Public Service System, as the transitional government of the Northern Marianas has not yet carried out the necessary studies and actions to emplace a Public Service System specifically tailored for the new government. Such studies and recommendations are being carried out, at the present time, by the Office of Transitional Studies and Planning, the Northern Marianas Legislature and the Office of the Resident Commissioner, and will undoubtedly lead to a Northern Marianas Public Service System, in the near future, including establishment of a Northern Marianas Personnel Board, to develop personnel regulations, rules and procedures.

One of the important functions of the Personnel Office is in supervision, coordination and administration of the Training program. This activity provides coordination and supervision over the Comprehensive Employment Training Act (CETA) programs, in the Northern Marianas, which is primarily a program to assist and train the unemployed and under-employed, with formalized training and with on-the-job training. This program is a U.S. Federal Programs Grant funded activity. In addition, the Personnel Office will have a major role in the "Special Training for New Political Status" program, provided for in the Commonwealth Covenant.

3. Employee Housing Lease Fund, +$30,000; total $30,000.

Employee housing are provided for certain eligible employees and their dependents, including contract or Civil Service hire expatriates (U.S., and Third Country Nationals and Micronesians from other Districts) and Northern Mariana citizens employed from outside a normal commuting distance.

As the government-owned houses in the Northern Marianas are limited, and must still be shared with the Trust Territory Government, it is necessary to lease homes from the private sector to augment the available government houses. This fund is to defray that cost.

Prior to separation in FY 1976, this category was kept as a lump-sum item at TT Headquarters. Due to pre-set budget structuring, it is still retained at the TT level in FY 1977, and if the "leasing" of residences for the Northern Marianas government employees is transferred to the Northern Marianas in FY'77, there will need to be a funding transfer from the TT to the Northern Marianas in FY 1977.

4. Personnel Benefits Fund, +$34,500; total $34,500.

This category provides funds for the defraying of special "personnel benefit" programs, such as the defraying of premium costs for a program of workmen's compensation insurance, education allowances for eligible dependents and other employment benefits, as may be authorized.

Personnel Benefits, as here utilized and defined, are not to be confused with the employer contribution costs of matching funds on programs such as social security contributions, retirement fund contribution, etc., which are funded within each programs category.

5. Procurement and Supply, +$22,300; total $49,000.

The Marianas Division of Procurement and Supply, as provided for in this FY 1978 Budget Estimates, is not a "full-service" procurement and supply organization, but is predicated on the continuance of the Trust Territory Central Supply Depot at Saipan, and the availability of the Depot's services, access to its "common-use" inventory, and storage facilities. This is based on the assumption that the Depot will not be relocated elsewhere by the Trust Territory, prior to FY 1978.

Because of the existence of Trust Territory Headquarters at Saipan, and more pertinently, the Headquarters Supply organization and Central Depot, the Marianas Procurement and Supply activity does not have any warehousing, shipment or incoming cargo receiving functions and capabilities. Under the Trust Territory system, all procurement outside of the Northern Marianas were handled by Trust Territory Headquarters.

The function of the Marianas Procurement and Supply activity, prior to separation was in the making of local purchases; in handling inter-islands government cargo shipments; in processing of requisitions, including recordation and follow-ups and in performing such other "in-house" supply functions, as may be requested.

With the separation of the Northern Marianas on April 1, 1976, it is recognized that the Marianas Government will have to, eventually, assume a greater degree of Independent Procurement and Supply functions and capability. However, in view of the limited funds available, and the apparent availability of the TT Central Supply Depot at Saipan for an extended period, and the undersirability of costly and unnecessary duplication in facilities and services, no immediate plans have been made for development of full warehousing, receiving and other functional services, still available from the TT Government resources.

However, it is deemed immediately necessary to establish "outside procurement" capabilities for the Northern Marianas government, and for this reason, provision has been made in the FY'78 estimates for a Marianas Procurement Officer and an Assistant. This establishment of outside procurement capability for the Northern Marianas started immediately upon separation (April 1, 1976), with a Procurement Officer "on loan" from the TT Government. The Marianas Procurement and Sunply Division is headed by a Procurement and Supply Officer, who is a citizen of the Northern Marianas.

6. The Planning Office, +$4,700; total $34,400.

The Marianas Planning Office provides long and short-range physical and developmental plans, including Master Plans for programs, facilities and area development, to the Marianas Government. In this respect, it participates in reviews of various government and private developmental proposals, in land utilization proposals; in environmental protection programs; in monitoring compliances with Master Plans; in protection and improvement of historical sites and artifacts programs; in development of desirable recreational facilities, such as hiking and bike trails; and many other similar areas. In addition, the Planning Officer plays a major role in determination of capital improvement project planning, to insure that such CIP projects fit within a long-range projection of needs and growth-pattern.

With the establishment of the Office of Transitional Studies and Planning, (OTSP) in accordance with the terms of the Covenant for Commonwealth Status, the Marianas Planning Office will now dove-tail its efforts with the OTSP, so as not to duplicate or work in counter-purpose to the functions of the OTSP. The Planning Office will assist the OTSP in data gathering will serve as a liaison between the OTSP and the Administration, and perform other functions in assisting the OTSP in its development of plans and programs. It will continue to carry out in-house, short-range planning functions as required by the Northern Marianas Government. The Marianas Planner is a U.S. citizen, assisted by a Deputy, who is a citizen of the Northern Marianas.

OPERATIONS:

(12) Marianas Department of Public Works: Fiscal Year 1977, $2,868,900; Fiscal Year 1978, $3,737,200; an increase of $868,300. The increase consists of:

	Amount	Positions	Total Program	Total Positions	Explanation
(i)	$ +136,700	-0-	$1,127,100	198	Operations and Maintenance (including Rota and Tinian Public Works O&M) --- Normal within-grade increments, plus some selected promotion and upgrades where appropriate. Also, small increases in material and supplies and other services categories, primarily to keep up with annually escalating costs of materials, parts, supplies and freight charges.
(ii)	+298,100	-0-	1,970,200	83	Saipan Utility Agency --- Normal within-grade increments, plus some selected promotion and upgrades where appropriate. Small increases in material and supplies, and more adequate funding provided for rapidly escalating costs of fuel for Power Plants.
(iii)	+ 28,900	-0-	235,300	22	Rota and Tinian Utilities --- Normal within-grade increments, plus some selected promotion and upgrades where appropriate. Small increases in material and supplies, and more adequate funding provided for rapidly escalating costs of fuel for Power Plants.

83-561 O - 77 - 87

GOVERNMENT OF THE NORTHERN MARIANA ISLANDS

	Amount	Positions	Total Program	Total Positions	Explanation
(iv)	$ +404,600	+87	$ 404,600	87	Automotive and Heavy Equipment Repairs Shop (*) (*This is the category formerly funded and managed at the TT Headquarters level as the "Central Repair Shop." This activity transferred to the Northern Marianas in FY-1977): Apparent large increase because of no amount being in FY-1977, as included in Trust Territory budget, and need for transfer of funds to Northern Marianas from Trust Territory.
	$ +868,300	+87	$3,737,200	390	

The funding allocation to the total Northern Marianas Department of Public Works for Fiscal Year 1978 is not significantly increased over that of Fiscal Year 1977 or Fiscal Year 1976. Of the $657,900 "increase" shown, $464,000 is attributable to a budgetary re-structuring, whereby the former Trust Territory Central Repair Shop is incorporated within the Marianas Public Works allocation. The Fiscal Year 1977 allocation for this activity does not show any amount for the Central Repair Shop, as this activity is still shown within the Trust Territory Headquarters allocation as of Fiscal Year 1977. As the Central Repair Shop will be transferred to the Government of the Northern Marianas at the beginning of Fiscal Year 1977, there will need to be a funding and manpower transfer from the Trust Territory to the Government of the Northern Mariana Islands. This function will be integrated within the general Operations and Maintenance Division of the Northern Marianas Public Works, and not be treated as a separate budgetary category.

The only other significant increase is in the Utilities area, to partially cope with the rapidly escalating costs of fuel, as well as rapid costs inflations being experienced in material, supplies, equipment and freight costs.

GOVERNMENT OF THE NORTHERN MARIANA ISLANDS

PROGRAM DESCRIPTION

The Northern Marianas Department of Public Works has an extremely widespread, diversified and awesome responsibility and functions in the operation, maintenance and construction of public facilities, infrastructure, and major equipment of the entire Northern Mariana Islands. The areas of involvement of this major activity covers maintenance and renovations of such areas as schools and health services buildings and facilities, all governmental administrative-buildings, lawns and facilities, public roads, docks, harbors and airports, public grounds upkeep, etc. In addition, this activity operates the vital utilities services, which include power, water, sewage and telephones, the efficient and effective operations of which not only affects the operation of government, but has major and daily impact upon the welfare and development of the total communities and populaces of the Northern Mariana Islands.

MARIANAS DEPARTMENT OF PUBLIC WORKS FUNDING - GENERAL

	Program	FY-1977 Estimate	FY-1978 Estimate	Change
1.	Operations & Maintenance....	$ 990,400	$1,127,100	$ +136,700
2.	Saipan Utilities Agency.....(1)	1,672,100	1,970,200	+298,100
3.	Rota and Tinian Utilities...(1)	206,400	235,300	+ 28,900
4.	Automotive & Heavy Equipment Repair Shop.....	-0-	404,600	+404,600
	Total.....	$2,868,900	$3,737,200	$ +868,300

(1) Utilities: These are "net grants" and do not include "reimbursements" (i.e., users charges). "Reimbursements" for FY-1978 are estimated to be $1,212,500 for the Saipan Utility Agency and $47,000 for Rota and Tinian Utilities. These "reimbursements" will also be expended by the Utilities activities during FY-1978, resulting in Gross Expenditures of $3,182,700 for the Saipan Utility Agency and $282,300 for Rota and Tinian Utilities.

1. Operations and Maintenance: $+136,700; Total $1,127,100:

Within this category is funded the multitudes of functions which make up the Public Works Operations and Maintenance activities of a governmental entity. This includes such diverse, widespread, volumnious and vital

functions as the maintenance and renovations of all public buildings and facilities, such as school buildings, health services facilities, administrative complexes, etc.; the maintenance and improvement of public roads, including bridges, culverts and other drainage systems; maintenance of public grounds, including the lawns and grounds of employee quarters, which in these tropical atmosphere means a constant and unending battle with the amazingly rapid growth of the foliage and grasses; maintenance of rapidly aging and deteriorating employee quarters; maintenance of airport and harbor facilities, and in the case of the harbors, providing the actual port operations and management; maintenance of old deteriorated equipment and operations of necessary heavy equipment, such as, dump trucks, graders, cranes, dozers, low-boys, etc. Custodial and janitorial services are provided both the Trust Territory Headquarters and the Northern Marianas administrative complex, as well as "reimbursable services" to the private sector, in various and diverse fields, on a time and manpower available basis.

In addition to the basic operations and maintenance services, which include such diverse fields as carpentry, painting, masonry, plumbing, electrical, refrigeration, including air conditioning, small boats and heavy equipment operations, solid waste collection and disposal, etc., this category also funds the Executive and Administrative Offices complex of the Public Works activity.

Basic direction over the entire Public Works complex, including utilities management and operations, is provided by the Director of Public Works, assisted by a Deputy Director. The Director, at the present time, is a native-born Saipanese, who has acquired U.S. citizenship. His Deputy is a citizen of the Northern Marianas. In addition to basic facilities operations and maintenance programs, Public Works also maintains and operates a full-scale administrative complex, involving budgetary and fiscal management, personnel management, including training and industrial safety programs, procurement and supplies functions, including operations of a ready-issue shop store and many other basic administrative functions.

In addition to the basic Operations and Maintenance functions at the District Centers of Saipan, full-scale Public Works Operations and Maintenance functions are carried out at the Sub-District Centers of Rota and Tinian. Both of these out-island activities carry out basically the same categories of operations and maintenance functions as does the Operations and Maintenance activity at Saipan, although, understandably, at a lower volume. Specific budgetary allocations are made to these out-island stations. Present estimates for FY-1978 allocation to Rota Public Works is $133,500 and for Tinian Public Works, $39,300.

2. The Saipan Utility Agency: $ +298,100; Total $1,970,200:

This activity encompasses the providing of all public utilities services in Saipan, which are electrical power, telephone, water and sewage. (Rota and Tinian utilities services are funded and accounted for in a separate budget category, described below as "Item 3., Rota and Tinian Utilities.") At the present time (September 1976), telephone service is still a function of the Saipan Utility Agency, but this utility service is now in the process of being leased to a private concern, and it is anticipated that operations and maintenance of the telephone service will no longer be a function of this Government by Fiscal Year 1978. However, leasing out of the telephone system to a private concern will mean that the government activities will have to pay for telephone service to the private concern, and appropriate funding provisions will have to be made.

The Saipan Utility Agency was established as a separate and funded entity, within the general category of the Department of Public Works, by Trust Territory High Commissioner Regulation Number 65-18 on December 22, 1965. The basic purpose of establishing this function into a distinct and self-contained entity from the rest of Public Works Operations and Maintenance, was to provide improved budgetary, management and accounting data and controls, especially from the standpoint of being able to identify and compare costs of utilities service production against revenues received. In addition, a more long-range view was also foreseen of a possible lease-out of the power and telephone systems to the private sector and/or of establishment of a Public Corporation, to operate the utilities system as an autonomous or semi-autonomous entity. In any event, it was, and is still deemed important to be able to specifically identify costs and income of the major utilities area from the rest of the general Public Works functions.

Power generation in the Northern Marianas is presently focalized in a steam-generating Power Barge, the IMPEDANCE, which was installed in November 1975 in Saipan, and which is owned by the U.S. Corps of Engineers (Army) and on loan to the Government of the Northern Mariana Islands. The term of the loan is that the Corps reserve the right to withdraw the barge from the Northern Marianas, at any time, with appropriate notice, and that the Government of the Northern Marianas would be held accountable for appropriate maintenance and overhaul, to insure that the IMPEDANCE is returned to the Corps, in as good (or better) condition than when received, less normal wear, tear and depreciation.

The Power Barge has a generating capability of 30 megawatts, generated by two steam boilers. At the present time, the peak load at Saipan, for government and private combined is 11,400 kilowatts per day, with a more average consumption of 8,000 kilowatts per day. With the rapid growth

now taking place in Saipan, particularly in tourist-oriented major hotels and other commercial facilities, it is anticipated that the peak load will rise to approximately 15,000 kilowatts per day within 1½ years. The normal operations and maintenance of the Power Barge IMPEDANCE has been contracted, by the Government of the Northern Mariana Islands to a private concern, the CHINASEA DEVELOPMENT CORPORATION. Contract supervision, as well as contracted governmental assistance are provided by the Marianas Department of Public Works. As the contract with CHINASEACO is that the Government provide supplies and materials, the rapid rise in fuel (residual oil) for the generation system, has constituted a serious drain upon the budget allocation for the Agency. A major portion of the programmed increase of allocation to this activity is an attempt to more adequately meet these rising costs of fuel and other supplies and material costs.

Prior to the installation of the Power Barge, power in Saipan was generated by a diesel power generating system, centered around two 2240KW Nordberg Generators, and 3-1500KW White Superior Generators, with generating capability of 8,980 kilowatts. In addition, auxiliary diesel power generators were set up, made up of smaller generators capable of generating approximately 1,600 kilowatts. With the power system now centralized in the Power Barge, these diesel units are presently being overhauled and maintained as auxiliary and standby generators to back-up the basic system.

In recognition that the Power Barge is only a temporary measure, and that something more permanent will have to be developed for the Northern Marianas, Capital Improvement plans for a "Permanent Power System" is now being developed. (More details on this "Permanent Power System" are contained in the Capital Improvement section of this Budget Estimate.)

In addition to power generation, the power system require a distribution system, which continues to be funded by the Saipan Utility Agency. At the present time, this involves approximately 61 miles of primary power lines. Electrical power are provided throughout most of the inhabited areas of Saipan.

At present, the users-generated income to the utility system is very small, at Saipan, with approximately $1,150,000 of "reimbursement" (i.e., private users charges) anticipated for FY-1978.

The Water System of Saipan is fed by the pumping of potable water from four (4) artesian springs, 16 deepwells, surface catchments and storage in basic storage tanks. The total water storage capability of Saipan is 19,000,000 gallons. This storage level is severely depleted during dry spells, and the wells and springs level dip to a dangerous point, frequently requiring severe rationing of water and "water hours" to be mandated.

Distribution of the water is carried out with approximately 37 miles of primary distribution lines and 31 miles of secondary and lateral lines. Much of these lines are in worn and over-aged conditions, and are being replaced as soon as funding can be made available. In addition to consumer carelessness and wastage, these worn and poor condition distribution pipelines contribute materially to an estimated daily water loss of over 500,000 gallons. The lack of meters in many consumer areas, and an unrealistic "flat rate" system are believed to be major causes of the loss of water due to carelessness and water usage abuses. Urgent efforts are being made to install meters throughout the island, as funding becomes available.

At the present time (September, 1976), water consumption is approximately 2,000,000 gallons per day including water losses. This is expected to rise substantially within the next 5 years, based on the foreseen growth in Saipan of the government, commercial and residential sectors, taking full cognizance of an expected tourism boom within 5 year period, which may double or treble tourist flows.

A sewage development, utilizing modern wastewater systems, made some progress in the last few years, but is still in an early development stage, in Saipan. Much of the community is still dependent upon utilization of cesspools, septic tanks, and in all too many cases, continued utilization of out-houses.

Two primary Treatment Plant for wastewater with ocean outfalls was installed, largely with Typhoon Jean (1968) Disaster Assistance funding. This involved 30 miles of primary lines and 2 wastewater treatment plants.

All government buildings and residential quarters are tied into the primary lines and use modern, indoors sanitary and plumbing facilities. The utilization rates are not as satisfactory in the private, residential sector, where as much as 80% of the homes are still reliant upon cesspools, septic tanks or out-houses. The main reason for the low percentage of private tie-ins is a lack of funding capabilities amongst the private citizenry. Recently, discussions have been carried out with the Farmers' Home Administration (FHA), which has indicated that low-interest loans may become available for residential tie-ins, which should greatly stimulate the installation of modern facilities and home sewage tie-ins into the primary sewage disposal system.

As previously noted, the telephone system is now in the process of being leased out to a private enterprise, and should not be a management/operations factor in the FY-1978 budgetary requirements for the Saipan Utility Agency.

3. Rota and Tinian Utilities: $+28,900; Total $235,300:

This category covers the costs and income of the utilities systems at the islands of Rota and Tinian. This is shown separately from the Saipan Utility Agency (which covers Saipan only), for the basic reasons of better costs and revenues identification, and for better budgetary and management guidances. In addition, the establishment and management of the Saipan Utility Agency was promulgated as a Public Regulation by the High Commissioner, but this Regulation did not include utilities at Rota and Tinian. However, for practicable management and operations purpose, the utility systems at Rota and Tinian are generally administered in compliance with the Saipan Utility Agency Public Regulations.

In Fiscal Year 1978, Utilities funding are broken down between Rota and Tinian as follows:

	Net Allocation	Estimated Income	Gross Available
1. Rota Utilities.....	$130,400	$19,000	$149,400
2. Tinian Utilities.....	104,900	28,000	132,900
Total.....	$235,300	$47,000	$282,300

A. ROTA

A.1. The Rota Power System: The Rota power generation system is made up of two diesel generators, with a total generating capability of 600 kilowatts. Distribution of power is carried out with approximately 5 miles of power lines. Peak load, at the present time (September, 1976) come to 380 kilowatts. It is expected that consumption rates will rise substantially, due to community growth, expansions in agricultural and tourism facilities and other growth factors. Included in the tourism attributed growth factor, is the present ongoing development of a luxury-hotel at Rota, to accelerate the promising tourism growth potentials at Rota.

At present, the users-generated income to the utility system is very small, at Rota, with approximately $19,000 of "reimbursements" (i.e. private users charges) anticipated for FY-1978.

A.2. The Rota Water System: The bulk of the potable water consumed at Rota come from the water caves in the Rota Sabanas (mountain plateau). Flow to the village is by gravity-flow, mainly utilizing primary lines installed during the Japanese era, which carry the water a distance of

approximately 5 miles to the village. Village lines were installed after World War II. Public Works is responsible for the maintenance, expansions and chlorination of the village water system. The "water caves" seem to have an adequate volume of water for current needs, but should the anticipated growth in commercial, farming and tourism programs take place in Rota, within the next 2 or 3 years, it will be necessary to provide for the development of watercatchment and storage facilities, as well as to further expand the distribution system.

B. TINIAN

B.1. The Tinian Power System: The Tinian power generation system is made up of two diesel generators, with a total generating capability of 600 kilowatts per hour. Distribution of power is carried out with approximately 8 miles of power lines. Peak load, at the present time (September, 1976) come to 310 kilowatts. Within the next 5 years, it is expected that there will be a substantial rise in consumption due to community growth, expansions in tourism and commercial facilities, and in agricultural development. At the present time, Tinian contains the largest private cattle ranch in Micronesia. (This estimate does not attempt to forecast the extent of military development that will take place in Tinian in the budget period, as there are no reliable information on this. A massive military development will, of course, cause a complete and drastic change in the programming, emplacement and management of utilities, infrastructure and other facilities and program at Tinian. Under the terms of the "Covenant" between the U.S. and the Northern Marianas, for Commonwealth status, the U.S. has reserved the right to "lease" approximately 2/3 of the Tinian land mass.)

At present, the users-generated income to the utility system is very small, at Tinian, with approximately $28,000 of "reimbursements" (i.e., private users charges) anticipated in FY-1978.

B.2. The Tinian Water System: The Tinian potable water system is centered around a major, shallow-well in the Marpo Valley of Tinian, and a distribution storage tank. The irrigation system, mainly in the fertile Marpo Valley, is served by separate wells and through a separate, distribution system. The potable water storage system at Tinian is of a 107,000 gallons capacity, and there are approximately 13 miles of pipes in the distribution system. Public Works is responsible for pumping to the storage tank, and for maintenance and operations of the distribution system. The irrigation system is not handled by Public Works, but is the responsibility, as to operations and maintenance, of the Northern Marianas Division of Agriculture.

4. Automotive and Heavy Equipment Repair Shop: $ + 404,600; Total $404,600.

The setting forth of this category as a separate item is primarily due to a need for budgetary and funding allocations clarity, rather than because

of the separate nature of this activity. This function, in essence, is a component part of the Operations and Maintenance activities of Public Works, and will, from a budgetary and accounting standpoint, be so integrated and consolidated, as soon as practicable.

Almost immediately after the establishment of the Marianas District, and the movement of TT Headquarters to Saipan in July, 1962, the Trust Territory Central Repairs Shop was established as a Headquarters entity located in Saipan. Amongst the basic functions of this activity were: (1) Automotive repairs and maintenance; (2) Heavy equipment repairs and maintenance; (3) Upholstery work; (4) Air conditioners repairs and maintenance; (5) generator repairs. These functions were on a Trust Territory-wide basis, including providing of services for Trust Territory Headquarters and the Marianas District.

In the interest of preventing costly duplications, it was decided that the Marianas District would not duplicate the services provided by the Central Repair Shop. As a result, Marianas District Public Works did not have any automotive or heavy equipment repairs and maintenance capabilities, manpower or funding. With the separation of the Northern Marianas on April 1, 1976, it was agreed between the Trust Territory Government and the Northern Marianas Government, that the Central Repair Shop organization, funding, manpower, functions and responsibilities would be turned over to the Northern Marianas.

However, due to the administrative, funding and accountability difficulties of making this transfer immediately upon the separation of the Northern Marianas, the transfer of this activity did not take place by the end of the normal Fiscal Year 1976 (i.e., ending June 30, 1976), and still has not taken place as of this date (September, 1976). It is now anticipated that the transfer will take place with the beginning of Fiscal Year 1977, i.e., October 1, 1976.

A complicating factor, from a budget formulation standpoint, was that the Fiscal Year 1977 Budget Estimates was structured with the Marianas District still included within the Trust Territory, and as a result, the breakdown between the Headquarters and the Marianas allocation still shows the Central Repair Shop as being funded at the Trust Territory level. This means that together with the transfer of organization and function to the Northern Marianas, with Fiscal Year 1977, a funding transfer will have to be made from the Trust Territory to the Northern Marianas. The amount of this "transfer" to be made, is still under negotiations. This accounts for the lack of any amount in the FY-1977 column, for this category, and a seeming $404,600 "increase" in FY-1978 over FY-1977. The actual program increase (i.e., as between what will ultimately be transferred to the Northern Marianas in FY-1977 from the Trust Territory, and the Northern Marianas FY-1978 full-funding estimate) will be, of course, considerably less than that....if any.

Government of the Northern Mariana Islands

AVERAGE NUMBER OF PERMANENT
Personnel On-Board By Activity and Personnel Category

Activity	FY 1976 Actual	FY 1977 Estimate	FY 1978 Estimate	Inc (+) Dec (-) 78 Compared to 77
GRANTS				
Operation				
1. Office of the Resident Commissioner, total	22	29	29	-
U.S. Civil Service	2	3	3	-
TT Public Service, total	20	26	26	-
Non-Micronesian, total	2	4	4	-
Contract	-	-	-	-
Local	2	4	4	-
Micronesian, total	18	22	22	-
Contract	-	-	-	-
Local	18	22	22	-
2. Local Court & Public Defender	-	-	13	+13
U.S. Civil Service	-	-	-	-
TT Public Service, total	-	-	13	+13
Non-Micronesian, total	-	-	2	+ 2
Contract	-	-	2	+ 2
Local	-	-	-	-
Micronesian, total	-	-	11	+11
Contract	-	-	-	-
Local	-	-	11	+11

Government of the Northern Mariana Islands

AVERAGE NUMBER OF PERMANENT
Personnel On-Board by Activity and Personnel Category

Activity	FY 1976 Actual	FY 1977 Estimate	FY 1978 Estimate	Inc (+) Dec (-) 78 Compared to 77
GRANTS				
Operation				
3. Health Services, total--	152	154	155	+ 1
U.S. Civil Service------	-	-	-	-
TT Public Service, total-	152	154	155	+ 1
Non-Micronesian, total--	3	3	4	+ 1
Contract----------	3	3	4	+ 1
Local----------	-	-	-	-
Micronesian, total------	149	151	151	-
Contract----------	1	2	2	-
Local----------	148	149	149	-
4. Education, total ------	278	286	294	+ 8
U.S. Civil Service	1	1	1	-
TT Public Service, total-	277	285	293	+ 8
Non-Micronesian, total--	26	28	28	-
Contract----------	13	15	15	-
Local----------	13	13	13	-
Micronesian, total------	251	257	265	+ 8
Contract----------	3	3	3	-
Local----------	248	254	262	+ 8

Government of the Northern Mariana Islands

AVERAGE NUMBER OF PERMANENT
Personnel On-Board by Activity and Personnel Category

Activity	FY 1976 Actual	FY 1977 Estimate	FY 1978 Estimate	Inc (+) Dec (-) 78 Compared to 77
GRANTS				
Operation				
5. Public Affairs, total--	22	24	24	-
U.S. Civil Service-----	-	-	-	
TT Public Service, total-	22	24	24	-
Non-Micronesian, total--	-	-	-	-
Contract----------	-	-	-	-
Local----------	-	-	-	-
Micronesian, total------	22	24	24	-
Contract----------	-	-	-	-
Local----------	22	24	24	-
6. Resources & Development, total----------	95	106	141	+ 35
U.S. Civil Service------	3	2	2	0
TT Public Service, total-	92	104	139	+ 35
Non-Micronesian, total---	3	5	5	-
Contract----------	3	5	5	-
Local----------	-	-	-	-
Micronesian, total-------	89	99	134	+ 35
Contract----------	2	2	2	-
Local----------	87	97	132	+ 35

Government of the Northern Mariana Islands

AVERAGE NUMBER OF PERMANENT
Personnel On-Board by Activity and Personnel Category

Activity	FY 1976 Actual	FY 1977 Estimate	FY 1978 Estimate	Inc (+) Dec (-) 78 Compared to 77
GRANTS				
Operation				
7. Office of the Attorney General	79	88	91	+ 3
U.S. Civil Service---	-	-	-	-
TT Public Service, total--	79	88	91	+ 3
Non-Micronesian, total--	1	-	1	+ 1
Contract----------	-	-	1	+ 1
Local----------	1	-	-	-
Micronesian, total------	78	88	90	+ 2
Contract----------	-	1	2	+ 1
Local----------	78	87	88	+ 1
8. Administration				
Finance and Supply Services, total---------	16	23	26	+ 3
U.S. Civil Service------	-	-	-	-
TT Public Service, total-	16	23	26	+ 3
Non-Micronesian, total---	-	-	-	-
Contract----------	-	-	-	-
Local----------	-	-	-	-
Micronesian, total-------	16	23	26	+ 3
Contract----------	-	-	-	-
Local----------	16	23	26	+ 3

Government of the Northern Mariana Islands

AVERAGE NUMBER OF PERMANENT
Personnel On-Board by Activity and Personnel Category

Activity	FY 1976 Actual	FY-1977 Estimate	FY 1978 Estimate	Inc(+) Dec(-) 78 Compared to 77
GRANTS				
Operation				
Personnel Services, total--	4	6	7	+ 1
U.S. Civil Service-----	-	-	-	-
TT Public Service, total--	4	6	7	+ 1
Non-Micronesian, total----	-	-	-	-
Contract----------	-	-	-	-
Local----------	-	-	-	-
Micronesian, total--------	4	6	7	+ 1
Contract----------	1	1	1	-
Local ----------	3	5	6	+ 1
Planning Office Services, total----------	3	3	3	-
U.S. Civil Service-------	-	-	-	-
TT Public Service, total--	3	3	3	-
Non-Micronesian, total----	1	1	1	-
Contract----------	1	1	1	-
Local----------	-	-	-	-
Micronesian, total--------	2	2	2	-
Contract----------	-	-	-	-
Local----------	2	2	2	-

Government of the Northern Mariana Islands

AVERAGE NUMBER OF PERMANENT
Personnel On-Board by Activity and Personnel Category

Activity	FY 1976 Actual	FY 1977 Estimate	FY 1978 Estimate	Inc(+) Dec(-) 78 Compared to 77
GRANTS				
Operation				
Total, Administration----	23	32	36	+ 4
U.S. Civil Service---	-	-	-	-
TT Public Service, total----------	23	32	36	+ 4
Non-Micronesian, total----------	1	1	1	-
Contract----------	1	1	1	-
Local----------	-	-	-	
Micronesian, total---	22	31	35	+ 4
Contract----------	1	1	1	-
Local----------	21	30	34	+ 4
Public Works, total------	321	303	390	+ 87
U.S. Civl Service----	2	2	2	-
TT Public Service, total----------	319	301	388	+ 87
Non-Micronesian, total--	4	5	6	+ 1
Contract----------	2	3	4	+ 1
Local----------	2	2	2	-
Micronesian, total----	315	296	382	+ 86
Contract----------	1	1	1	-
Local----------	314	295	381	+ 86

Government of the Northern Mariana Islands

AVERAGE NUMBER OF PERMANENT
Personnel On-Board by Activity and Personnel Category

Activity	FY 1976 Actual	FY 1977 Estimate	FY 1978 Estimate	Inc(+) Dec(-) 78 Compared to 77
GRANTS				
Operation				
Total, Grant-Operation--------	992	1,022	1,173	+151
U.S. Civl Service --------	8	6	6	-0-
TT Public Service, total--	984	1,016	1,167	+151
Non-Micronesian, total----	40	48	53	+ 5
Contract----------	22	29	34	+ 5
Local----------	18	19	19	-
Micronesian, total--------	944	968	1,114	+146
Contract----------	8	10	11	+ 1
Local----------	936	958	1,103	+145

83-561 O - 77 - 88

Government of the Northern Mariana Islands

CAPITAL IMPROVEMENT PROGRAM
FISCAL YEAR 1978

Type of Improvement	FY'77 Program	FY 78 Estimate	Inc. (+) Dec. (+)
1. Health Services	-0-	$ 530,000	$+ 530,000
2. Education	-0-	630,000	+ 630,000
3. Public Affairs	-0-	-0-	---
4. Resources and Development	-0-	-0-	---
5. Protection to Persons and Property	-0-	-0-	---
6. General Administration	-0-	10,000	+ 10,000
7. Public Works Utilities			
(a) Power	3,294,000	2,189,000	-1,105,000
(b) Water	168,000	383,000	+ 215,000
(c) Sewage	308,000	91,000	- 217,000
8. Transportation and Communication			
(a) Dock & Harbor	-0-	100,000	+ 100,000
(b) Airport	-0-	-0-	---
Total	3,770,000	3,933,000	+ 163,000

Government of the Northern Mariana Islands

Capital Improvement Program -- FY 1978

By Major Islands

PROGRAM DESCRIPTION	SAIPAN	TINIAN	ROTA	TOTAL
1. Power Generation and plant	$ 1,447,000	$ 250,000	$ 250,000	$1,947,000
2. Power Distribution Improvement	76,000	116,000	50,000	242,000
3. Water System Improvement	317,000	36,000		353,000
4. A&E Design for Water		30,000		30,000
5. A&E Design for Civic Center		10,000		10,000
6. Hospital Rehabilitation	425,000	105,000		530,000
7. Elementary Classrooms	175,000	40,000		215,000
8. Secondary School		20,000	395,000	415,000
9. Wastewater Treatment Plant	91,000			91,000
10. Dock & Harbor Restoration			100,000	100,000
Total.....	$2,531,000	$ 607,000	$ 795,000	$ 3,933,000

Government of the Northern Mariana Islands

1. Health Services - $530,000:

Funds are requested in FY 1978 for:

(a) Hospital Rehabilitation, Saipan	$425,000
(b) Dispensary Renovation, Tinian	105,000
TOTAL	$530,000

(a) Hospital Rehabilitation, Saipan - $425,000

The funds requested will be used to continue the Dr. Torres Hospital's major renovation program partially funded in FY 1976 to renovate the electrical, mechanical systems plumbing and to typhoon-proof three of the eleven (11) wings plus one operating room. This renovation program is considered very important from the standpoint of safeguarding the very lives of the in-patients as well as the hospital employees against any flying tin roofings and other materials during the typhoon.

(b) Dispensary Renovation, Tinian - $105,000

Tinian now has its own medical doctor, and in order to provide a full range of medical services to the inhabitants, it became imperative to immediately upgrade the existing medical facilities to more effectively cope with the people's medical needs. The fund requested will be used to renovate and improve the existing dispensary to accommodate Public Health Section, male and pediatric wards, and in addition, to procure various urgently needed medical equipment. If funding permits, a 20' x 40' concrete block building will be built to house the morgue reefer, Environmental Health, storage, and working spaces.

2. Education Facilities - $630,000

Funds requested in FY 1978 are proposed to be used for the construction of the following educational facilities:

(a) Elementary Classrooms, Saipan	$175,000
(b) Elementary Classrooms, Tinian	40,000
(c) Home Arts Building, Tinian	20,000
(d) Relocation of High School, Rota	395,000
TOTAL	$630,000

Government of the Northern Mariana Islands

(a) Elementary Classrooms, Saipan; $175,000

Because of the projected increases on school enrollment for school year 1977-1978, it is mandatory that additional classrooms and toilet facilities be constructed in the following schools:

Site	Number of Classrooms
San Roque	1 Classroom and 1 toilet
Tanapag	1 Classroom and 1 toilet
Oleai	2 Classrooms
San Vicente	2 Classrooms
Garapan	2 Classrooms
San Antonio	1 Classroom

The nine (9) classrooms and toilet facilities will be concrete structures. The amount requested is considered adequate to fund construction of the nine (9) classrooms and two (2) toilet facilities and in addition to procure collateral equipment to equip all of the above classrooms.

(b) Elementary Classrooms, Tinian; $40,000

In meeting the normal increase in enrollment in primary grades, and in order to alleviate the present problem of overcrowding of students in a classroom, two (2) additional classrooms are needed. This would in effect enable Tinian to have the ideal teacher-pupil ratio of one-to-twenty-five.

(c) Home Arts Building, Tinian; $20,000

Fund is requested to build one (1) 30' x 30' concrete block building to be used as "Home Arts" classroom by the secondary students. During the past school years 1975-1976, because of lack of a regular classroom, one of the empty government living quarters was utilized as Home Arts classroom, but, since the house is now occupied by a government employee, utilization of this building is no longer possible to the student. Home Arts is a vocational course and it is a compulsory course that must be taken by every high school student.

(d) Relocation of High School, Rota; $395,000

It is proposed to build a new high school at the site (South) of Songsong Village near the Old Japanese hospital area. It is considered essential that the high school be physically

separated from the grade school area for student's morale and discipline. The relocation of the High School will, in effect, make eight (8) additional classrooms available to alleviate the present overcrowded rooms at the elementary grades. There are approximately 200 students enrolled in the Rota High School. This program is one of the recommendations under the Rota Master Plan.

A total floor space area of 14,380 square feet which will include; classrooms, toilet facilities, office and various other school facilities.

3. Transportation and Communication Facilities; $100,00

Funds are requested in FY 1978 for:

(a) Rota Harbor	$100,000
TOTAL	$100,000

(a) Rota Harbor; $100,00

This amount is requested as Government of the Northern Mariana Islands' share in the restoration project of damage to Rota dock and harbor caused by Typhoon Pamela. This project was partially funded by Federal Disaster Assistance Administration (FDAA) grant in the amount of $544,000. It is considered however that, this restoration project will cost far in excess of the amount granted by the FDAA. Additional funding may be sought in the future, should the exact amount required become known.

4. General Administration; $10,000

Funds are requested in FY 1978 for:

(a) A&E Design for Civic Center, Tinian	$10,000
Total	$10,000

(a) A&E Design for Civic Center, Tinian; $10,000

The fund requested is for the preliminary planning and design for the Civic Center in Tinian to house various Offices of the Government of the Northern Mariana Islands under one roof. It is proposed that the present office will be transferred to the Health Service thereby allowing the dispensary additional space so they can accomodate various badly needed facilities.

Government of the Northern Mariana Islands

5. Power Generation; $1,947,000

Funds are requested in FY 1978 for:

(a) Power Generation & Plant Saipan	$1,447,000
(b) Power Generation, Tinian	250,000
(c) Power Generation, Rota	250,000
TOTAL	$1,947,000

(a) Power Generation and Plant, Saipan; $1,447,000

The power barge "Impedance" was loaned to the Marianas Government by the U. S. Army Corps of Engineers in FY 1975, to alleviate the rapidly increasing demand for electrical power, primarily by tourism oriented industries and other commercial establishments. The duration of loan is five (5) years subject to recalling of barge on short notice by the Army during the national emergency. This additional fund on Saipan power plant is to supplement the FY 1977 funding under the Phase I, for the construction of a new power plant and to procure a 15,000 KW generator to replace the power barge.

The current projection indicates that power demand will reach 30,000 KW by 1980. The plant should be built to accommodate additional 15,000 KW generator which funding will be included in future year budget requests.

(b) Power Generation, Tinian; $250,000

Tinian at present, has two (2) 300 KW units "White Superior" generators. But, the demand for power has greatly increased and it has become necessary to put both units into 24 hour operation in order to meet this demand. There is no standby unit available should one of the units cut itself out. Both engines have far exceeded the manufacturer's recommended operational hours for overhaul. Because of this situation, it is proposed that one (1) 500 KW generator be procured immediately as an interim measure to supplement Tinian's electrical needs.

(c) Power Generation, Rota; $250,000

To purchase and install one (1) new 500 KW diesel generator.

The present power load is about 290 KW at peak loading times. It is necessary to run the two 300 KW generators at all times to carry this load since they automatically cut out at about 260 KW loading. With the addition of the M.I.C. Hotel (188 KW design demand) and the Tineto Subdivision (the proposed federal housing south of the village), plus the continual additional electrical appliances in the present service area, it is obvious that the generation capacity of the generators now on hand are inadequate.

6. Power Distribution Improvement; $242,000

Funds are requested in FY 1978 for:

(a) Power Distribution Improvement, Saipan	$76,000
(b) Power Distribution Improvement, Tinian	116,000
(c) Power Distribution Improvement, Rota	50,000
TOTAL	$242,000

(a) Power Distribution Improvement, Saipan, $76,000

In keeping pace with the increasing demand for electrical power both from the public and private sectors, a portion of the above funding will be used to extend service to those areas and the remaining balance shall be used to replace those badly deteriorated, power poles, hardware, and some of the old and dangerous primary lines.

(b) Power Distribution Improvement, Tinian; $116,000

Replacement of worn out power distribution fixtures, transformers and lines. Replacement of termite and weather beaten poles which present hazards to the lives of workmen, the public, and the power system: This is a normal requirement and therefore it is vital in the proper maintenance of the power system and additional services to customers.

Tinian has no auger truck or hydraulic lift to lift power poles. If funding permits, it is intended that these two (2) pieces of equipment be procured for this project.

(c) Power Distribution Improvement, Rota; $50,000

This installation would be a new 3 phase primary line from the power plant crossing the village due East and then North to tie in to the existing lines south of the hospital area. It would greatly increase the capability to sustain continuous

service even though the system could receive damage during typhoons.

7. Water System Improvement, $353,000

Funds are requested in FY 1978 for:

(a) Water System Improvement, Saipan	$317,000
(b) Water System Improvement, Tinian	36,000
TOTAL	$353,000

(a) Water System Improvement, Saipan, $317,000

This funding is to be used to continue the replacement of the secondary distribution lines in the villages. Many of these smaller pipelines have badly deteriorated causing considerable water loss due to leakage and a chronic water shortage on the island. These secondary lines are being replaced in a continuing program to upgrade the overall water delivery system.

(b) Water Distribution Improvement, Tinian; $36,000

This amount is required to replace approximately 4,000 feet of water distribution lines with the San Jose Village. Many of the village water distribution lines have badly deteriorated causing considerable water loss due to leakage.

8. A& E Design for Water Distribution System; $30,000

Funding is requested in FY 1978 for:

(a) A&E Design for Water Distribution System, Tinian	$30,000
TOTAL	$30,000

(a) A&E Design for Water Distribution System Tinian; $30,000

This fund is requested to carryout the planning and design of the new water distribution system. The requirement for water service has greatly increased. The planning and design will include new or additional areas, costs of labor, equipment and materials. The completed project is estimated at $300,000. Ten percent is considered adequate for A&E design.

The cost for this project will be requested in the future years as A&E design is completed and the total cost to

complete this project will be come more certain.

9. Wastewater Treatment Plants: $91,000

Funding is requested in FY 1978 for:

(a) Wastewater Treatment Plants, Saipan	$91,000
TOTAL	$91,000

(a) Wastewater Treatment Plants, Saipan, $91,000

The amount requested for this program is intended to be used as matching fund to secure additional funds to construct wastewater treatment plants; one (1) in the Agingan point and one (1) at Garapan. These facilities are a pre-requisite set by the Environmental Protection Agency for renewal of the Marianas' National Pollutant Discharge Elimination System Discharge Permit. A portion of this money is to be used for A&E design of these facilities.

Trust Territory of the Pacific Islands

For expenses necessary for the Department of the Interior in administration of the Trust Territory of the Pacific Islands pursuant to the Trusteeship Agreement approved by joint resolution of July 18, 1947 (61 Stat. 397), and the Act of June 30, 1954 (68 Stat. 330), as amended (90 Stat. 299), including the expenses of the High Commissioner of the Trust Territory of the Pacific Islands; compensation and expenses of the Judiciary of the Trust Territory of the Pacific Islands; grants to the Trust Territory of the Pacific Islands in addition to local revenues, for support of governmental functions; [$79,077,000, to remain available until expended] *$86,625,000, to remain available until expended, of which $13,515,000 is for expenses necessary for the Department of the Interior, in administration of the Government of the Northern Mariana Islands, including direct grant support for governmental operations, capital improvement projects, and for an economic development loan fund in addition to current local revenues for support of governmental functions:* Provided, That all financial transactions of the Trust Territory *and the government of the Northern Mariana Islands,* including such transactions of all agencies or instrumentalities established or utilized by such Trust Territory *and the government of the Northern Mariana Islands,* shall be audited by the General Accounting Office in accordance with the provisions of the Budget and Accounting Act, 1921 (42 Stat. 23), as amended, and the Accounting and Auditing Act of 1950 (64 Stat. 834); *Provided further,* That the government of the Trust Territory of the Pacific Islands *and the government of the Northern Mariana Islands* [is] *are* authorized to make purchases through the General Services Administration: *Provided further,* That appropriations available for the administration of the Trust Territory of the Pacific Islands *and the government of the Northern Mariana Islands,* may be expended for the purchase, charter, maintenance, and operation of surface vessels for official purposes and for commercial transportation purposes found by the Secretary to be necessary in carrying out the provisions of article (6)2 of the Trusteeship Agreement approved by Congress. *(Executive Order No. 11021, the Department of the Interior and Related Agencies Appropriation Act, 1977; additional authorizing legislation to be proposed.)*

TERRITORIAL AFFAIRS

Office of Territorial Affairs

Trust Territory of the Pacific Islands

(Proposed for later transmittal, proposed legislation)

Program and Financing (in thousands of dollars)

Identification code 14-0414-3-1-806	1976 act.	TQ Act.	1977 est.	1978 est
Program by activities:				
Government of the Northern Mariana Islands, grants	---	---	---	2,614
10.00 Total program (costs--obligations)	---	---	---	2,614
Financing:				
40.00 Budget authority (proposed for later transmittal)	---	---	---	2,614
Relation of obligations to outlays:				
71.00 Obligations incurred, net	---	---	---	2,614
90.00 Outlays	---	---	---	2,614

Grant funds in the amount of $2,614 thousand will be requested at a later date for the Government of the Northern Mariana Islands when all the provisions of the "Covenant to establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America," Public Law 94-241 (90 Stat. 272), which relate to funding, are completed.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

OFFICE OF THE SOLICITOR

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
SALARIES AND EXPENSES

HIGHLIGHT STATEMENT

The Solicitor is the principal legal adviser to the Secretary and the chief law officer of the Department. His Office consists of five headquarters divisions, eight regional and twenty field offices.

All attorneys and auxiliary personnel within the Department of the Interior, except those in the Virgin Islands, Guam, American Samoa, the Trust Territory of the Pacific Islands, and those in the Office of Hearings and Appeals, are under the Solicitor's supervision. In addition to the legal work directly associated with the programs and activities of the Department, the Office of the Solicitor is also responsible for matters relating to torts, other claims, and inventions (patents) by personnel of the Department.

The 1978 appropriation request of $14,054,000 is an increase of $1,133,000 over the current year's appropriation of $12,921,000. This increase permits this Office to fund its presently authorized positions critically needed to effectively and efficiently provide the increased legal services required by its client agencies.

The constantly increasing programs and activities of the Department, including the continued rapid expansion in areas such as energy, environment, Indian and Alaska Native rights, land acquisitions, and large-scale power and development projects, generate the requirement for increased legal services of a more complex and diversified nature than previously rendered. A compelling need exists to accelerate many of these programs, in order that they be completed within the Congressionally imposed time constraints and to avoid law suits and loss of money to the Government. Our client agencies cannot fulfill their obligations without the essential legal services. To comply with their requirements, the Office of the Solicitor must maintain a fully responsive and extremely competent legal unit. The objective of this Office is to establish and maintain such a unit with the proposed appropriation.

DEPARTMENT OF THE INTERIOR

OFFICE OF THE SOLICITOR

Budget Authority
(in thousands of dollars)

Account & Functional Code		1976 Actual	1977 Estimate	1978 Estimate
Federal Funds				
General Funds:				
Salaries and Expenses	306	11,598	12,921	14,054
Total Federal Funds		11,598	12,921	14,054

OFFICE OF THE SOLICITOR

Salaries and Expenses

Appropriation, 1976	$11,263,000	
Pay Act Supplemental (October 1975)	335,000	
Total appropriation, 1976		$11,598,000
Appropriation, 1977	12,371,000	
Pay cost supplemental (October 1976)	550,000	
Total available, 1977		12,921,000

SUMMARY OF INCREASES AND DECREASES, 1978

Legal services	Base for 1978	Increase 1978	
Personnel salaries and benefits	$10,341	$923	
Current operations	1,310	76	
Travel	414	36	
GSA space costs	856	98	
Total, net increase, 1978			1,133,000
Budget Estimate, 1978			$14,054,000

83-561 O - 77 - 89

OFFICE OF THE SOLICITOR
Salaries and Expenses

Analysis by Activities

Activity	FY 1976 Amount Available	(Direct Appropriation) Fiscal Year 1977 Total Appropriation	Pay Cost Supplemental	Amount Available
1. Legal services	$11,591,199	$12,371,000	$550,000	$12,921,000
Unobligated balance lapsing	6,801			
Total	11,598,000	12,371,000	550,000	12,921,000

OFFICE OF THE SOLICITOR
SALARIES AND EXPENSES

Analysis by Activities

Activity	FY 1976 Amount Available	FY 1977 Amount Available	Auth. Perm. Pos.	FY 1978 Estimate	Auth. Perm. Pos.	Increase (+) or Decrease (-) 1978 Compared with 1977 Dollars	Auth. Perm. Pos.	Page Reference
1. Legal services	$11,591,199	$12,921,000	442	$14,054,000	442	$+1,133,000	---	6
Unobligated balance lapsing	6,801							
Total	11,598,000	12,921,000	442	14,054,000	442	+1,133,000	---	

1. Legal Services: Fiscal year 1977, $12,921,000; fiscal year 1978, $14,054,000 increase of $1,133,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+$1,035,000		$13,100,000	442	Funding of authorized positions - to maintain full complement of legal, administrative and support personnel to meet increased demands for legal services.
(B)+ 98,000		954,000		GSA space costs.
+$1,133,000		$14,054,000	442	

Program Synopsis

The Office of the Solicitor will provide legal services of an increased quantity and of a more complex nature than previously rendered for the Department of the Interior. To effectively provide these diversified legal services, a full complement of attorneys and support personnel is essential.

A. Funding of Authorized Positions

Fiscal year 1977, $12,065,000; fiscal year 1978, $13,100,000; increase of $1,035,000.

Major Program Changes

(1) Increased and more complex workload	+$1,035,000; total $13,100,000 No new positions; total 442 authorized positions

Proposal. The request for an increase of $1,035,000 will be utilized to fill the authorized positions and to meet the increased costs of personnel salaries and benefits, and additional related funding costs, which will occur during fiscal year 1978, in order to maintain a full complement of 442 employees.

Justification. The $1,035,000 increase, which provides funding for the 442 authorized positions required for fiscal year 1978, will insure that the Office of the Solicitor furnishes the required legal services in support of the rapidly expanding programs and activities of the Department. These increased programs and activities have created new areas of responsibility for this Office, and have generated the requirement for greater legal services of a more sophisticated nature. The proposed funding will permit the Office of the Solicitor to maintain a legal staff which is extremely competent and fully responsive to the needs of its client offices and bureaus in fulfilling their obligations in a timely and efficient manner.

During fiscal year 1976, the Office of the Solicitor was underfunded, due to a forecasting error in this Office, and had to undertake drastic control actions to prevent overobligations. As a result, a voluminous backlog developed. The additional funding will eliminate the backlog and prevent recurrence of a similar situation.

A direct correlation exists between the workload of the Solicitor's Office and that of the various programs and projects administered by its clients. As bureau programs increase and expand, the required legal counsel increases proportionately. During fiscal year 1978, the legal workload of the Office will continue to increase in volume and complexity. Sufficient funding must be assured to maintain adequate attorney and support personnel to efficiently and effectively proccess the volume of legal items in a timely manner. The Office of the Solicitor must provide the required legal services to its client agencies so that these bureaus and offices can fulfill their obligations to the Department. Failure to complete projects within imposed time constraints will result in increased costs, numerous law suits, and liabilities to the Federal Government. The proposed increase will provide adequate funding for staffing a full complement of personnel to render the required legal services.

The statistical analysis of the total number of litigation cases, administrative proceedings, and legislative matters, as well as legal memoranda, illustrated on page 8, are items which were not completely resolved during fiscal year 1976. This analysis includes a total caseload figure for open litigation and proceedings, rather than merely an accounting of legal memoranda and other matters requiring immediate review or response.

The number of legal items will continue to increase in fiscal years 1977 and 1978. Some specific areas of activity in which expansion will continue at a signicantly high rate include: the National Park Service land acquisition program (specifically the Big Cypress Project), Alaska Native rights, Indian claims, the Outer Continental Shelf and Coal Leasing Programs, water rights, and administration of the Freedom of Information, Privacy and Endangered Species Acts.

The National Park Service's Big Cypress National Preserve project will generate more than 100,000 title opinions, and the legal services required in conjunction with these title opinions will have a tremendous impact on the workload of the Headquarters Office and the Regional Solicitor's Office in Atlanta, Georgia. The Justice Department, in April 1976, delegated to the Office of the Solicitor the authority and responsibility to render title opinions associated with this land acquisition program of the National Park Service. The additional responsibilities the Office assumed, as a result of this delegation, were not anticipated, and, consequently, funding for this program was not included in the fiscal year 1977 budget request. However, funds to support this activity are included in the fiscal year 1978 budget request.

The requirements for legal services in the State of Alaska alone have more than doubled within the past year as a result of: (1) a massive undertaking of trespass actions against persons illegally settled on land to be conveyed to the Natives, or areas in which Congress desires to establish parks or wildlife refuges; (2) an acceleration in litigation as a result of efforts to open new areas to Outer Continental Shelf leasing; (3) the completion of the Trans-Alaska Pipe Line and the enforcement of all permit provisions, such as the welding X-ray problem of 1975-76; (4) the transfer of an additional 80 million acres of land to 250 Native corporations; (5) an extensive disenrollment program of persons who do not qualify as Alaska Natives, with each action affording the individual an opportunity for a full hearing; and, (6) litigation involving the number of tort claims handled.

A more detailed description of the various programs, functional responsibilities, and workload areas of the Office of the Solicitor follows under "Program Description."

OFFICE OF THE SOLICITOR
ANALYSIS OF MONTHLY STATISTICAL REPORTS

As of June 1976

TOTAL PENDING LEGAL MATTERS		DGL	DCW	DER	DMHS	DIA	ANCH	ATL	DEN	PHIL	PORT	SLC	SAC	TUL	TOTALS
I.	LITIGATION	70	1,926	337	42	218	6	12	195	82	182	115	281	553	4,019
II.	ADMINISTRATIVE PROCEEDINGS	203	36	240	2,402	15	24	96	91	12	2	20	52	56	3,249
III.	REGULATIONS	22	8	8	21	9	0	1	1	2	0	1	1	6	80
IV.	LEGISLATIVE MATTERS	28	9	40	0	6	0	0	1	0	2	0	3	3	92
V.	LEGAL MEMORANDA	75	82	34	34	55	17	84	595	243	609	151	257	468	2,704
	TOTALS	398	2,061	659	2,499	303	47	193	883	339	795	287	594	1,086	10,144

Note abbreviations:
DGL - Division of General Law
DCW - " " Conservation and Wildlife
DER - " " Energy and Resources
DMHS - " " Mine Health and Safety
DIA - " " Indian Affairs

ANCH - Anchorage
ATL - Atlanta
DEN - Denver
PHIL - Philadelphia
PORT - Portland
SLC - Salt Lake City
SAC - Sacramento
TUL - Tulsa

Cost Factors.

(1) Personnel Compensation:

Permanent Positions. During fiscal year 1978, the cost to fund the authorized 442 positions will be $9,952,000. The 442 permanent positions are the total number of positions authorized for fiscal year 1977 in the Office of the Solicitor.1/ Additional permanent positions are not being requested in fiscal year 1978.

Positions Other Than Permanent. This category of personnel compensation is estimated to cost approximately $200,000 in fiscal year 1978, based upon past experience in hiring other than permanent personnel to assist Office staff during peak workload periods. The $200,000 represents approximately 17 man-years, at an average cost of $6.00 per hour.

Other Personnal Compensation. As office attorneys are constantly under pressure to meet various deadlines, there is considerable demand for support personnel to work beyond their scheduled work hours to assist the legal staff in the evening or on the weekend. The estimated requirement for overtime is $88,000.

Therefore, our total request for "Personnel Compensation" for fiscal year 1978 is $10,240,000 or an increase of $832,000.

Permanent Positions Cost	$ 9,952,000
Positions Other Than Permanent	200,000
Other Personnel Compensation	88,000
	$10,240,000

(2) Personnel Benefits:

In fiscal years 1976 and 1977, actual personnel benefits expenses were 9.6 and 9.9 percent, respectively, of personnel compensation. In fiscal year 1978, it is expected that the funds required to defray the cost of personnel benefits for permanent employees will modestly increase to 10 percent of personnel compensation for a total of $1,024,000, a net increase of $91,000 in the fiscal year 1978 budget request.

(3) Additional Related Funding Requirements:

Travel and Transportation of Persons. The fiscal year 1977 budget for this category is $414,000. Due to increased costs of travel and related costs required to accommodate a full complement of attorneys to service our clients' escalating program demands, an additional $36,000 is requested in fiscal year 1978. For example, it is estimated that travel outside the contiguous United States will be essential in conducting legal activities related to the implementation of the Endangered Species Act. Travel for court appearances, case negotiations and settlement conferences involves from two to seven travel days, or an average of 4.5 days per individual trip. Per diem and commercial air fares have increased. The requested increase of $36,000 will fund travel required for attorneys in their efforts to reduce litigation backlog and to prevent possible damages against the Department.

1/ House Report No. 94-1218, page 32, House of Representatives, 94th Congress, 2nd Session, Department of the Interior and Related Agencies, Appropriation Bill, 1977.

Communications and Utilities. The fiscal year 1977 estimate for communications and utilities to defray the costs of GSA telephone charges, equipment rental, and FTS telephone charges is $390,000. Funds in the amount of $410,000 are requested for fiscal year 1978. This category represents a $20,000 increase.

Printing and Reproduction. The estimated cost of these services required by the staff in fiscal year 1977 is $65,000. With a full complement of 442 employees on board in fiscal year 1978, increased service requests in this category will require $70,000, representing an increase of $5,000.

Other Services. The budget allocation for Other Services in fiscal year 1977 is $475,000. During fiscal year 1978, it is estimated that an additional $10,000 will be needed, as follows:

1. Since training expenses were severely curtailed during fiscal year 1976, it is estimated that Office personnel, especially attorneys, will be encouraged to further increase their knowledge and develop specializations through participation in educational courses and seminars during fiscal years 1977 and 1978. It is expected that an additional $2,000 will be required in fiscal year 1978.

2. Contracts for computer services are expected to increase by $8,000 during fiscal year 1978, due to the implementation of JURIS and Lexis, law library supplements which are computer-based storage and retrieval systems. These systems contain voluminous "libraries" which focus extensively on Federal law practice and applications and which should be of inestimable benefit to the Solicitor's staff in the timely and expeditious performance of legal research.

Supplies. The cost of supplies for fiscal year 1977 is estimated to be $175,000. During fiscal year 1978, an additional $15,000 will be required.

Equipment. Due to the increased workload, primarily in the Atlanta Regional Office, microfilming equipment, supplies and filing equipment will be required. In addition, the purchase of library books and publication subscriptions is essential. The estimated expenditure for fiscal year 1977 is $145,000. An increase of $26,000 will be required in fiscal year 1978.

PROGRAM DESCRIPTION

The activities of the Office of the Solicitor are extremely diversified, spanning all the fields of legal expertise and utilizing a vast resource of skilled legal personnel within the Headquarters staff in Washington, D.C., and in the Regional and Field Offices. In many instances, the Washington Office supervises and coordinates the legal services provided by the regional and field installations to assure the development and maintenance of cohesive and consistent legal policy. It may appear on the surface that each component of the Solicitor's Office provides the same service for the same client. In fact, each of the offices may provide a similar service; however, it provides the legal assistance to different field or regional components of a particular client agency and for different and unique projects and programs administered by the various Departmental bureaus and offices.

The Solicitor's Office consists of five Headquarters divisions, eight Regional and 20 Field Offices, which are:

Divisions	Regions	Field
Conservation and Wildlife	Anchorage	Juneau
Energy and Resources	Atlanta	Elberton
General Law	Denver	Aberdeen
Indian Affairs		Billings
Mine Health & Safety		Cheyenne
	Philadelphia	Twin Cities
	Portland	Boise
	Sacramento	Boulder City
		Phoenix
		Reno
		Riverside
		San Francisco
		Window Rock
	Tulsa	Albuquerque
		Amarillo
		Anadarko
		Muskogee
		New Orleans
		Pawhuska
		Santa Fe
	Salt Lake City	

As indicated previously, there follows a detailed description of the various programs, functional responsibilities, and workload areas of the Office of the Solicitor:

1. Conservation and Wildlife. This division has the primary responsibility for legal matters involving the programs and activities of the National Park Service, the Bureau of Outdoor Recreation, and the Fish and Wildlife Service. The workload has increased in size and complexity because of the increasing sophistication and expansion of client programs and operations. Statistics indicate an increase of legal matters reviewed in fiscal year 1974 of 3444 to an estimated 5100 in fiscal year 1976. Based on the trend of the past three fiscal years, the legal workload will continue to increase in fiscal year 1977 and again in fiscal year 1978.

a. Parks and Recreation. This function has the responsibility for matters involved with the Bureau of Outdoor Recreation and the National Park Service, except those of the National Capital Parks.

From 1960 to 1975, the number of park areas increased from 100 to 285 and the number of park visitors rose from 79.2 million to 239 million. During the period 1972 to 1975, Congressional legislation authorized 32 new areas--12 of them during 1975--including the Big Cypress National Preserve. The creation of these areas has generated extensive workload in all the related areas of land acquisitions, archeology and historic preservation, resources protection, concessions, law enforcement services, construction projects and the National Environmental Policy Act.

In implementing the Park Service's grant-in-aid program for the preservation of historic properties, this Office will continue to assist in the development and publication of regulations to assure compliance with the terms of the Historic Preservation Act of 1966 and the simplification of grant application procedures. Legal assistance will also be required to resolve difficult legal problems regarding the implementation of E.O. 11593 and the Moss-Bennett Archeological Salvage Act. These Congressional directives require implementing regulations, guidelines and coordinating activities with other Federal agencies. Assistance will be provided to the Park Service in developing regulations and procedures for implementing the Antiquities Act which requires coordinating with other Federal agencies and the resolution of many complex issues, as well as defending the authority of the Secretary to preserve and protect various wrecks and vessels located on the Outer Continental Shelf which is relatively new. Attorneys are providing legal assistance to the Service in developing its new program of acquiring by donation scenic easements over lands which have been identified by the Secretary as National Historic Landmarks.

Other issues involving these attorneys concern the possible requirement that the Federal government quantify its reserved water rights in areas of the National Park system. Because of the high degree of complexity and overlapping interests and the increase in the number of cases, this form of litigation is extremely time consuming and requires continual attention by staff attorneys. Legal assistance in concession contracting will continue to be provided at an increasing rate as a result of new guidelines, regulations and procedures which will be developed.

Congress will be considering legislation for park and refuge areas in Alaska, which will place demands on this Office through participation in the legislative process and interpretation of the new set of conservation laws. Implementation of the Alaska park and refuge legislation will involve joint management areas between the Bureau of Land Management and the Fish and Wildlife Service, subsistence hunting, and full implementation of the Alaska Native Claims Settlement Act and its amendments.

There has been an increase in Indian claims to lands of the National Park Service system and the right to exercise various hunting and fishing rights within these areas. The issues involving the Havasupai at the Grand Canyon, the Blackfeet at Glacier, the Quileute at Olympia and the Oglala Sioux at Badlands are the beginning of a continuing series of legal problems involving the scope and nature of Indian and tribal rights within the boundaries of the various units of the Park System. As a result of the Departmental reorganization on law enforcement, and the Park Service emphasis in this area, greater demands will be placed on this Office, particularly if new legislation is passed.

The National Park Service Land acquisition program requires continual legal assistance. The Service will be acquiring the "difficult areas," such as Big Cypress, Cayahoga, and Big Thicket, which have

complex land acquisition requirements. Of particular importance and effect to the Office of the Solicitor is that the authority for the preparation of title opinions for Park Service land acquisition has been delegated to the Solicitor's Office by the Department of Justice. For the Big Cypress project alone, we will provide preliminary and final title opinions for approximately 100,000 tracts. The other land acquisition projects of the Service will also require title opinion work by the staff which was previously performed by Justice Department personnel. When this function was transferred, this Office did not receive additional authorization for positions or funding to meet the demands of this function.

In recent years, there has been growing concern over mining activities in the Park System. As a result of increased interest in exploitation of mineral supplies, our staff attorneys have been involved in litigation, drafting of regulations to control mineral activities in the areas of the System, and legislation which seeks to solve the problems. We anticipate increased litigation and administrative problems over the next two years, particularly, if Congress enacts various proposals to close areas of the Park System to mineral entry.

The Bureau of Outdoor Recreation constitutes the primary Federal agency concerned with the booming field of recreation and conservation at the state and local levels. Legal assistance is provided in the development and implementation of procedures; the negotiation in and review of contractual agreements; the preparation of the defense in litigation concerning these programs; enforcement of existing Federal rights through preparation of requests for legal action; and conduct of activities under various special programs. For example, the Land and Water Conservation Fund Act provides funds to finance (1) comprehensive stateside recreation land use planning and state and local recreation land acquisition and development; and (2) Federal recreation land acquisition by the National Park Service, the Fish and Wildlife Service, the Bureau of Land Management and the Forest Service. The Bureau also assists state and local governments in selecting surplus Federal real properties for park and recreation purposes; coordinating with other Federal departments in assessing park and recreation potential of their underutilized real properties; and providing legal conveyances of surplus real properties for park and recreation purposes.

b. National Capital Parks. This function has initial responsibility arising in connection with the programs and activities of the National Capital Parks, National Park Service.

In representing the National Capital Parks, attorneys are involved in activities similar to those previously stated, relative to the Park Service with respect to the areas of archeology and historic preservation, concessions, the National Environmental Policy Act, land acquisition and title opinions.

In addition, the Office provides the following services which are tailored to the urban park responsibilities:

1. furnishes full complement of legal services to the United States Park Police, including matters of criminal law, personnel actions, legal training of police officers, and general scope of authority; provides 24-hour advice and response to the Force and frequently accompanies officers on a variety of missions;

2. involves extensive coordination with the District of Columbia Government, the White House, the Capitol, and local police and regulatory bodies in nearby Virginia and Maryland, because National Capital Parks activities are interrelated to those numerous other jurisdictions and agencies;

3. involves significant legal problems generated by the clients of the National Capital Parks heavily involved in the performing arts and programs areas, including Wolf Trap Farm Park for the Performing Arts, the Kennedy Center, Ford's Theatre, Festival of American Folklife, Shakespeare Summer Festival, the National Symphony program and numerous other short-term concerts and performances; these programs generate workload in the areas of contracts, cooperative agreements and union relations.

A significant portion of the work in this area involves matters relating to the exercise of First Amendment freedoms in the District of Columbia. Because the park land is located adjacent to the seats of the executive and legislative branches of Government, they have been found to be unique sites for the conduct of First Amendment activities.

c. Fish and Wildlife. Activities involve the handling of legal matters arising in relation to programs and activities of the Fish and Wildlife Service.

In recent years, the Service has received from Congress a significant number of complicated legislative authorities which have created new programs or which have considerably increased the authority or scope of existing programs. These complicated enactments, which require extensive legal assistance to implement, include the Endangered Species Act of 1973, the Marine Mammals Protection Act, the Federal Environment Pesticide Control Act, as well as numerous water and air pollution control authorities. The implementation of these regulatory programs, in addition to those increasing responsibilities for the continuation of existing programs, has placed increased demands on the staff. The new activities include:

1. Endangered Species Act.

The Department has placed a heavy emphasis on the expeditious implementation of the Act. This extremely complicated piece of legislation, which includes extensive administrative review procedures, will require a continued heavy involvement of this Office; discussing with other agencies the proper interpretation of certain provisions and procedures for their implementation; assisting the Department of Justice in defense of litigation against other agencies; and handling administrative actions.

The Office carries a heavy responsibility in the review of the complicated administrative actions to assure compliance with the Act, the National Environmental Policy Act, and all regulations promulgated in accordance with the Acts.

The Office continues to serve as the focal point for determining which states are eligible to enter cooperative agreements and receive Federal assistance pursuant to Section 6 of the Endangered Species Act.

The Fish and Wildlife Service has approximately 300 special agents who have responsibility for the enforcement of the Act. A total of 2,900 civil and criminal cases and 550 civil penalty cases are pending. Attorneys are called upon for guidance and advice in handling litigation for the Division of Law Enforcement and various U.S. Attorneys across the country. It is anticipated that there will be a significant increase in

the number of cases filed in this area during fiscal years 1977 and 1978, thereby increasing the workload of the Office proportionately. The increase results from the expansion of the Division of Law Enforcement staffing at ports of entry.

2. Litigation.

With the increase of environmental awareness, there has been significant increase in litigation against the Fish and Wildlife Service groups which disagree with the Service's management policies. The primary areas include animal control and National Environmental Policy Act litigation.

3. Marine Mammals Protection Act.

At present, attorneys are required to spend a substantial amount of time on administrative hearings to determine whether the states have an adequate management program for the return of jurisdiction over marine mammals.

2. Energy and Resources. This area of responsibility includes most legal activities in connection with programs of the Bureau of Land Management, the Bureau of Mines, the Geological Survey, the Ocean Mining Administration, the Bureau of Reclamation, and the Office of Water Resources and Technology. Additionally, this division has the initial responsibility for programs and activities of the Department related to electric power and such critical areas as the administration of the Connally Act, the Law of the Sea and international law affecting marine minerals, pollution and related matters.

One tremendous increase in legal workload is the litigation caseload--at the end of fiscal year 1974, there were 194 cases pending; by the end of fiscal year 1975, there were 284; by the end of fiscal year 1976, there were 364. This shows an increase of 46 percent between fiscal years 1974 and 1975 and 28 percent between fiscal years 1975 and 1976. An examination of the increase between fiscal year 1974 and fiscal year 1976 highlights an increase of 90 percent over a two-year period. Another significant increase is in matters identified as "legal advice" which is reflected in memoranda prepared by staff attorneys. Based upon subjective data, it is conservatively estimated that such matters have doubled within the past fiscal year alone. It is expected that these two areas will continue to increase in fiscal year 1978.

a. Minerals. This function has initial responsibility for the legal matters in connection with the Bureau of Land Management to the extent that minerals are involved, the Bureau of Mines, and the Geological Survey, except those relating to international marine minerals.

Departmental programs for the development of minerals, particularly energy minerals, have been greatly expanded in recent years and will be broadened further in fiscal year 1978. Because new legal problems arise with expansion of the mineral programs, and because they involve highly controversial

questions, the burdens on the Solicitor's Office will be greatly increased. Several programs, in particular, are expected to impose extremely heavy workload burdens on the legal staff. Among these programs are the expanded Federal coal and Outer Continental Shelf oil and gas programs, including sales in frontier areas; the coal program, including new concepts in leasing, new diligence requirements, new royalty provisions, new operating regulations and the imposition of these requirements; and, the promulgation of new regulations to comply with the new amendments to the coal statute.

In addition, while oil shale leases have been issued, the ongoing program, which is the subject of close scrutiny by states and the public sector, continues to present new and challenging legal problems. Other mineral programs of the Department, including onshore oil and gas, geothermal resources, phosphate, potassium, the mining law minerals, and Outer Continental Shelf minerals other than oil and gas continue to make great demands on the Office, and the necessity of modernizing those programs will require additional legal and support personnel. Phosphate, sodium and potassium development present legal problems similar to those arising in connection with coal. As management of Federal lands increases, problems arising in connection with claims under the mining law will increase correspondingly.

b. Lands. Legal matters arising in connection with the activities of the Bureau of Land Management, except those relating to minerals, are conducted within the scope of this area. The Bureau manages about 20 percent of the land area of the United States pursuant to the provisions of several hundred Federal statutes. The staff attorneys are continuously involved in a broad spectrum of legal questions (ranging from simple contracts through complex Constitutional issues) related to the following programs of the Bureau: fuel and energy development; recreation management; forestry; range managment; Alaska Native claims; soil and watershed conservation; environmental protection; fire suppression and rehabilitation; wildlife protection; disposals by grant and otherwise.

The workload has increased dramatically in the past few years with the passage of recent legislation, such as the National Environmental Policy Act and the Trans-Alaska Pipeline Act, and with increased involvement of public lands in the Nation's energy, recreation and growth needs. The enactment of the Federal Land Policy and Management Act, the Arctic Gas Pipeline Bill, and other legislation before Congress will further increase this heavy workload. The entire body of public land law will be rewritten by this legislation and its effect will be immediate.

c. International Law. International legal matters including international marine minerals in connection with the Bureau of Land Management, Geological Survey, the Bureau of Mines and the Ocean Mining Administration are under this activity.

In fiscal year 1978, the Department's innovative program for accelerated development of marine energy minerals will give rise to extensive and highly complex legal problems between the Federal and state governments. The extent of Federal jurisdiction over vast areas desirable for petroleum development remains in controversy despite years of litigation. Resolution of these questions, which will take place in the Supreme Court, must continue without delay unless the National program for increased energy self-reliance is to be adversely affected. Similarly, jurisdictional disputes between the United States and neighboring countries have inhibited development of energy resources. At the

request of the Secretary of Interior, the Department of State has begun efforts to resolve these problems, placing the attorneys within this area as Departmental liaison in this sensitive matter.

The Department's Ocean Mining Administration provides leadership in the development of the abundant hard mineral resources of the deep oceans. The expansion of the Department's activities in this new field has and will continue to engender many international legal problems and greatly increase the demands made on this staff.

More stringent protection of marine environment through stricter international measures is a goal of U.S. policy. The Trans-Alaska Pipeline Act requires the establishment of an Oil Spill Liability Fund. Oil spill liability legislation has been developed and proposed to the Congress by the Ford Administration.

Several areas of responsibility assigned to this staff, such as advice to the Geological Survey regarding its operating rules for oil exploitation on the continental shelf and lengthy research, have been sharply curtailed because of the urgency attached to programs connected with accelerated development of continental shelf energy resources.

In the event that ocean mining legislation is enacted, regulations to govern this new industry and the other legal problems associated with it will result in increased workload.

d. Power. This function is within the area of electric power matters arising in connection with programs and activities and the Bureau of Reclamation, Bonneville Power Administration, Alaska Power Administration, Southeastern Power Administration, Southwestern Power Administration, and the Defense Electric Power Administration. The staff has either direct or supervisory responsibility for the legal work of power operations that gross more than $400 million in power revenues annually, operate in more than 25 states and manage an investment in facilities worth several billion dollars.

A number of factors indicate further demands for legal service in the power area will be made in fiscal year 1978.

Client agencies are involved in complicated joint transmission and power pooling contracts, which involve long hours of negotiations and raise unique and complex legal questions. After many years of stable rate levels, power marketing agencies are, at present, being forced to raise their rates to keep up with rising costs. This entails working extensively with clients, processing volumes of correspondence, consulting with legislators, and litigating cases.

As a result of a court ruling, the Bureau of Reclamation is now required to hold hearings on rate changes. It is now being determined whether the Bonneville, Alaska, Southeastern, and Southwestern Power Administrations should also hold rate hearings. Such a determination would have a concommitant effect on the workload in this area.

Eight rate cases are pending, which require a great deal of work from this staff. Fifteen other lawsuits, as well as three Federal Power Commission proceedings, are currently in progress and more are anticipated. There has been a 30 percent increase in the caseload this year. Further, additional cases are expected next year as a result of the continuing round of rate increases and the prospect that Federal power facilities may be built for the first time in New England and other areas.

e. Water. The responsibilities for water and related resource legal matters arising in connection with the programs and activities of the Bureau of Reclamation and the Office of Water Resources and Technology fall within this activity.

Water rights and water for energy efforts have always been but are becoming even more urgent concerns throughout the western United States. The pressing problem of inadequate water supply has manifested itself in legal controversies involving Indian water rights and water for development of coal and oil shale on public lands and for satisfaction of treaty obligations to Mexico and Canada. Stream adjudications have already been filed in New Mexico and Montana, and others are expected. Moreover, non-judicial efforts to quantify Indian and other reserved Federal water rights are being accelerated. These developments will greatly increase the lawyer activity in this area for the next fiscal year. Additionally, new program activities during the coming fiscal year will include intensified efforts to increase the supply of usable water both by projects for salinity control and for augmentation (cloud-seeding and interbasin transfers, for example). Legal counsel is provided to the Commissioner of Reclamation, three Assistant Commissioners and officials of fifteen operating divisions of the Bureau of Reclamation in Washington, including a staff of more than sixty engineers and economists.

3. General Law. Legal advice and counsel are provided encompassing the Freedom of Information Act, the Privacy Act advisory committees, conflicts of interest, personnel cases and other general administrative matters, procurement contracts, grants, cooperative agreements, patents, equal opportunity compliance and other civil rights matters, labor-management relations, and matters arising in connection with the National Environmental Policy Act of 1969 (NEPA) and related environmental policy and procedures. Additionally, legal services are provided to the Office of Territorial Affairs and the Office of Manpower Training and Youth Activities.

a. Environmental Law. The litigation workload in this activity has at least doubled in the past fiscal year and is expected to continue to rise in the coming fiscal year. Litigation involves the Outer Continental Shelf leasing program and other programs that are of vital importance to the Department and the Nation. In the same vein, the staff's input in assuring that the various programs and projects comply with the policies and procedures of the National Environmental Policy Act is of vital importance to the uninterrupted flow of the Department's programs.

b. General Legal. Legal advice and counsel are provided which encompass a wide variety of matters including the Freedom of Information, Privacy and Federal Advisory Committee Acts, conflicts of interest, personnel actions, appropriations, criminal conduct of employees, review of regulations and legislation and with respect to questions of a general legal nature which do not fall directly within the jurisdiction of other more specific areas of the Office. In addition, legal service is provided to the Office of Manpower Training and Youth Activities and the Division of Helium of the Bureau of Mines.

Activity in the Freedom of Information area continues to increase steadily (the number of FOIA appeals for the final six months of fiscal year 1976 was twice the number for the first six months of that fiscal year; the trend indicates continued increases in fiscal years 1977 and 1978). As public awareness of the Privacy Act increases, an increased number of matters will arise in this area. A substantial rise in conflict of interest reviews is also anticipated in view of recent statutory and policy changes. Personnel cases involving hearings, referrals of criminal matters to the Department of Justice, and defending the Department in a variety of litigation make up the bulk of the remainder of the work of this activity.

c. Labor-Management Relations. The workload of this activity has been increasing at a more rapid rate than was anticipated, attributable to internal changes whereby the Department's Division of Labor-Management Relations in the Office of Organization and Personnel Management has been given greater responsibilities; and amendments to E.O. 11491, which resulted in more opportunities for disputes to be resolved by third parties and accelerated union activities.

d. Equal Opportunity Compliance. This activity has the responsibility for: providing legal services relating to the Department's responsibility of assuring compliance of Government contractors in such industries as oil, rubber and plastics with equal employment obligations set forth in E.O. 11246 and implementing regulations; assuring compliance of programs receiving Federal financial assistance with Title VI of the Civil Rights Act of 1964; investigating and deciding complaints of employment discrimination against the Department under 5 CFR 713; and fulfilling the Department's responsibility to assure compliance of its programs such as the Trans-Alaska Pipe Line project with the Housing Act of 1968 and various related programs to assure participation of minority business enterprises in Departmental programs.

e. Patents. This staff handles all legal matters arising in connection with patents, copyrights, trademarks, rights in data, other forms of intellectual data and for the protection of intellectual property including rights in data and proprietary information emanating from programs of the Department. Certain patent services must be through contract with private law firms, due to the small number of attorneys in this activity and the relatively large volume of work involved in protecting Government rights in inventions and discoveries emanating from Government-funded research and development.

f. Procurement. Legal services are provided relating to the award and administration of procurement contracts, grants and associated cooperative agreements, as well as the Defense Production Act of 1950, as amended. The fastest growing activity in this area is the implementation of the recently announced Department-wide contract legal review program. The new program has already resulted in a significant increase in the number of procurement actions submitted for review. While the increase in reviews from fiscal year 1975 to 1976 was moderate (355 actions in fiscal year 1975; 403 in fiscal year 1976), we estimate a 25 percent increase in fiscal year 1977 (approximately 500 items for review) and a substantial increase for fiscal year 1978.

Another major effort will center on interpretations and guidelines relating to the new Indian Self-Determination and Education Assistance Act and its implementation. This statute calls for a major contracting effort in the turning over of Bureau of Indian Affairs programs to local Indian organizations.

Another area of emphasis involves procurement protests to the General Accounting Office. The number of appeals has increased from 31 in fiscal year 1975 to 46 in fiscal year 1976. It is projected that this figure will reach 60 during fiscal year 1977, and will continue to increase in subsequent years.

g. Territories. This function handles all legal matters in connection with the activities of the Office of Territorial Affairs and the programs of the Department conducted in several territories of the United States, as well as providing legal services to the territories of Guam, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands, the Office of Territorial Affairs and the Office of Micronesian Status Negotiations.

4. Indian Affairs. All legal matters pertaining to the administration of Indian affairs fall within this activity. The workload is divided among four categories with specified responsibility. An analysis of the increasing

83-561 O - 77 - 90

litigation caseload handled within these areas is indicative of the upward trend in the number of suits expected to be filed which will involve the Department. It should be emphasized that many of the legal problems handled by the Solicitor's staff attorneys for their Indian clients involve other Departmental bureaus and offices, therefore, legal policies must be coordinated which adds to the complexity of each matter.

a. General Legal Services. This activity is delegated the primary responsibility for: counseling Bureau of Indian Affairs department directors in matters exclusive of Tribal Government and Trust Responsibilities; the program areas of education, financial assistance, housing, social services (such as, general welfare assistance); the administration of trust funds probating Indian estates; the administration of the Bureau (chiefly personnel and Indian preference); the approval of tribal attorney contracts and claims settlement; and the implementation of recent legislative enactments (chiefly, the Indian Judgment Fund Distribution Act of 1975). The staff is also responsible for handling tort claims filed against the Bureau of Indian Affairs in the Washington, D.C. area.

All counseling services to Bureau officials have been expanded. Litigation involving the question of eligibility for Bureau services has greatly increased, particularly in the areas of employment and breach of trust.

Administration of the Indian Self-Determination Act's ambitious contracting program is also a major task under this activity. Over a dozen opinions were written construing this Act during the past fiscal year. The Act requires contracting of most Bureau programs with tribes which places a heavy burden on the Solicitor's Office. In this case, such matters are coordinated with the General Law area. As the Bureau declines contracts only at the Central Office level, this group of attorneys will be required to advise the Commissioner on the Act's requirements for any declinations. There has also been involvement in the Bureau's drafting of regulations to implement major legislative initiatives such as the Indian Judgment Funds Distribution Act and the Indian Financing Act.

b. Indian Natural Resources. This activity has the initial responsibility for legal matters arising in connection with the functions of the Bureau relating to lands, minerals, hunting and fishing rights, and water rights. The major concentration of workload in the area of Indian affairs is demonstrated by the heavy caseload and attorney strength in this activity. Statistics indicate that the workload includes 68 land cases, 13 hunting and fishing rights cases (nearly doubling since fiscal year 1975), and 25 water right cases. This does not include six proceedings before the Federal Power Commission. Most of these cases involve suits by the United States to protect Indian rights as trustee. Overall, the number of cases in this area has increased by 15 percent. A larger increase is foreseen for the next fiscal year. Since the Federal statute of limitations (28 U.S.C. § 24le) on trespass actions runs of July 18, 1977, it will be necessary to investigate and file a large number (probably more than 100) of such cases on behalf of Indians.

Fulfillment of the Department's trust responsibility to protect Indian natural resources continues to require attorneys to spend a substantial amount of time resolving administrative conflicts between Indian claims and rights and the positions and policies of various Department bureaus and offices. The Administration has for many years supported legislation to create an Indian Trust Counsel Authority, an independent Federal agency empowered to litigate on behalf of Indian claimants against officials of this and other Federal departments. Pending the establishment of such an agency, the Office of the Solicitor is charged with the responsibility of advocating Indian resource claims and presenting

conflicts between Indians and other Departmental agencies for administrative resolution.

c. Jurisdiction, Taxation, and Civil Rights Act of 1968. Presently, attorneys have the responsibility for 39 cases in the areas of Federal, state and tribal jurisdiction and taxation in Indian country. This represents an increase of nearly 20 percent over fiscal year 1975. Further, it is anticipated that this area will continue to increase in the next two-year period. Tribal governments are growing increasingly assertive of their own powers and are seeking particularly to restrict state jurisdiction.

d. Tribal Government, Legislation and Alaska. This area currently has responsibility for six cases involving intra-tribal disputes, tribal ordinances and elections. Extensive time has been consumed by these cases and other matters concerning tribal government and breakdowns in law and order on reservations. Substantial time continues to be spent counseling Bureau officials in areas of tribal government and law enforcement. It is anticipated that, as programs are turned over by contract to tribes, pursuant to Public Law 93-638, more legal time and effort will be devoted to the power and authority of tribal governments.

In Alaska legal matters, there are presently seven cases. One of these, U.S. v. Atlantic Richfield et al., is an action against over 150 corporate defendants for pre-Alaska Native Claims Settlement Act (ANSCA) trespasses to the possessory rights of Arctic Slope Natives. Preparation of this case has been and will continue to be a time-consuming task for three attorneys. In addition, similar litigation is expected to be brought in other areas of Alaska. These suits will have to be filed prior to July 1977, the expiration of the pertinent statute of limitations.

5. Mine Health and Safety. Staff attorneys handle legal matters arising under the Federal Metal and Nonmetalic Mine Safety Act and the Federal Coal Mine Health and Safety Act of 1969, including the preparation and trial of cases, both administrative and judicial, and the drafting and interpretation of pertinent regulations and statutes.

a. Administrative Litigation. This category involves all responsibility for administrative procedure act hearings concerning the Metal and Nonmetallic Mine Safety Act and the Federal Coal Mine Health and Safety Act of 1969 before the Department's Office of Hearing and Appeals. At the end of May 1976, the caseload was 2,355 cases, which included 1,547 civil penalty cases averaging approximately 10 violations per case.

During 1975, 1,760 cases were received from the Mining Enforcement Safety Administration (MESA) Assessment Office; from January to May of 1976, 585 additional civil penalty cases were received. These cases are processed under the assessment procedures effective August 1, 1974, which provide for conferences with the MESA Office of Assessments prior to hearing and formal adjudication. The decrease in the civil penalty caseload over recent years is evidence that the conference system has been effective in settlement of such matters prior to formal adjudication by the conference officers. However, those cases which are received present more meaningful issues and result more frequently in hearings before the Office of Hearings and Appeals. Accordingly, more time is spent in preparation for such trials. Moreover, it appears that MESA is preparing to revise its

assessment formula to raise civil penalties, which, in turn, is likely to result in a substantial increase in hearings requests. Projections received from the MESA Assessment Office indicate that that office will assess penalties for 150,000 violations per year. Even assuming that this office will dispose of four-fifths of these violations at the conference level, approximately 25,000 triable violations will be forwarded to the Office of the Solicitor in fiscal year 1978.

During calendar year 1975, 254 applications for review and 186 petitions for modification were processed. Since January 1976, the staff received 105 new applications for review and 364 petitions for modification (involving 529 mines). The petitions have increased dramatically over previous years, due to operator difficulty and resistance in complying with new cab and canopy regulations. Such cases require exceptional preparation and lengthy trial presentation as they involve more difficult and factual issues. Additional cases can be expected as canopies are required on equipment used at the lower mining heights.

b. Court Litigation. In coordination with the Department of Justice, the Office has the responsibility for the administration of all litigation relating to the Coal Act and the Metal and Nonmetal Act before the various courts within the United States. The number of court cases brought under the Coal Act and Metal Act continues to grow, as does the degree of independent responsibility for handling these cases by Solicitor staff attorneys delegated by the Department of Justice.

Cases presently being handled under this activity include:

(1) Action under Section 108 of the Coal Act. Actions are brought in Federal district courts by the Department for injunctive relief primarily where operators violate orders of withdrawal or refuse to allow inspectors to inspect their mines. Approximately 30 cases are pending.

Recently concluded discussions with the Assistant Attorney General, Civil Division, have resulted in the decision to give attorneys from the Solicitor's Office the primary litigative responsibility for handling these cases.

(2) Petitions for review under Section 106 of the Coal Act. Actions brought in the Courts of Appeals for judicial review of orders of the Board of Mine Operations in all but penalty cases. Approximately 10 cases are pending. Such cases require extensive cooperation and assistance in the preparation of briefs and oral arguments from the staff attorneys because of their precedent-setting nature.

(3) Section 109(a)(4). This section provides that when an operator refuses to pay a penalty, the Secretary must institute an enforcement action in Federal district court. As of June 30, 1976, approximately 3,800 cases were pending. Cases are now being set for trial, and it is anticipated that the cases will be expedited.

(4) Suits under Section 109(b) or (c). Criminal actions against corporate operators and individuals for knowing or willful violations of the law. The Justice Department policy is to file suit under these subsections only in aggravated situations. Seven cases are presently pending. The establishment in MESA of a Special Investigation Unit charged with examining violations to determine the existence of criminal intent indicates

that there will be a steady increase in the number of these cases.

(5) Suits against the Department. There are usually tort claims or suits to enjoin enforcement of the Coal or Metal and Nonmetal Acts. Thirteen cases are pending in this category. Attorneys from the Department actively participate in these proceedings with the Department of Justice.

(6) Suits under the Metal and Nonmetallic Mine Safety Act. Majority of these cases are brought by the Department of the Interior for injunctive relief when operators deny inspectors entry into their mine or violate orders of withdrawal. Five cases are pending.

(c) Metal and Nonmetallic Mine Health and Safety. This branch covers the preparation of pertinent regulations and standards relating to the enforcement of the Federal Metal and Nonmetallic Mine Safety Act by the Mining Enforcement and Safety Administration. Substantial work will continue as a result of the MESA-OSHA agreement of April 22, 1974. MESA has reviewed standards adopted by OSHA which have a significant application to working conditions in metal and nonmetallic mines. Some standards are to be modified because of specific conditions associated with the mining industry. Thereafter, the standards will be submitted to the Advisory Committee and published as proposed standards. Hearings will be held, if requested, and mandatory standards will be promulgated.

(d) Regulations and Procedures. This branch covers the preparation of pertinent regulations and the interpretation of regulations and statutes relating to the functions of MESA and all other legal matters arising under the area of Coal Mine Health and Safety. A substantial continuing workload is estimated. MESA is considering standards covering extensive recissions of 30 CFR Part 70 and 75, training and certification of miners, ventilation of electrical installations and charging stations, recovery of pillars, diesel equipment, installation of automatic brakes, rock dusting of long and short wall faces, new self rescue devices, mine rescue teams and extensive revisions of equipment approval schedules. These standards are in various stages of promulgation, ranging from initial drafting, submission to 101(c) consultation meetings, and draftings for publication as proposed rulemaking. It is estimated that the bulk of actions required will occur in fiscal year 1978.

B. GSA Space Costs

Increase $98,000

Fiscal year 1977 space rental is $856,000. The fiscal year 1978 space rental is $954,000, reflecting an increase of $98,000. During fiscal year 1978, it is estimated that an additional 7,207 square feet will be required. The additional cost for this increased space will be $44,000.

Space requirements have increased as a result of our establishing a field office in New Orleans, Louisiana; the inception of the Big Cypress Title Unit, an addition to the Atlanta Regional Office; and, the pressing need for additional space for the Headquarters office, the Anchorage Regional Office and the Billings Field Office.

The increased cost factor to be applied by General Services Administration is $54,000. The total additional cost of space rental for fiscal year 1978 is $98,000.

DEPARTMENT OF THE INTERIOR

OFFICE OF THE SOLICITOR

Salaries and Expenses

For necessary expenses of the Office of the Solicitor, [$12,371,000] $14,054,000

(Department of the Interior and Related Agencies Appropriation Act, 1977)

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
SALARIES AND EXPENSES

STANDARD FORM 300–T
June 1975, Office of Management and Budget Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)

Identification code 14-0107-0-1-306	19 76 actual	19 TQ	19 77 estimate	19 78 estimate
Program by activities:				
Direct program:				
Legal services	11,639	2,779	12,921	14,054
Reimbursable program	39	15	40	40
Total program costs, funded	11,678	2,794	12,961	14,094
Change in selected resources (undelivered orders)	-48	-13	---	---
10.00 Total obligations	11,630	2,781	12,961	14,094
Financing:				
11.00 Offsetting collections from: Federal funds	-39	-15	-40	-40
23.00 Unobligated balance available, start of period	---	-6	---	---
24.00 Unobligated balance available, end of period	6	---	---	---
25.00 Unobligated balance lapsing	---	21	---	---
Budget authority	11,598	2,782	12,921	* 14,054
Budget authority:				
40.00 Appropriation	11,598	2,782	12,371	14,054
44.20 Supplemental now requested for civilian pay raises	---	---	550	---
Relation of obligations to outlays:				
71.00 Obligations incurred, net	11,591	2,766	12,921	14,054
72.00 Obligated balance, start of period	1,327	1,025	1,081	1,104
74.00 Obligated balance, end of period	-1,025	-1,081	-1,104	-1,504
77.00 Adjustments in expired accounts	-130	---	---	---
90.00 Outlays, excluding pay raise supplemental	11,763	2,710	12,370	13,632
91.20 Outlays from civilian pay raise supplemental	---	---	528	22
	(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

300-101T

STANDARD FORM 304–T
June 1973, Office of Management and Budget Circular No. A-11, Revised. 304-101T

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
SALARIES AND EXPENSES

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 14-0107-0-1-306	19 76 actual	19 TQ	19 77 estimate	19 78 estimate
Personnel compensation:				
11.1 Permanent positions	8,384	2,000	9,120	9,952
11.3 Positions other than permanent	163	78	200	200
11.5 Other personnel compensation	62	----	88	88
[illegible]				
Total personnel compensation	8,609	2,078	9,408	10,240
Personnel benefits:				
12.1 Civilian	836	216	933	1,024
[illegible]				
21.0 Travel and transportation of persons	369	53	414	450
22.0 Transportation of things	3	7	60	60
23.1 Standard level users charges	837	160	856	954
23.2 Other rent, communications, and utilities	387	109	390	410
24.0 Printing and reproduction	53	67	65	70
25.0 Other services	265	23	475	485
26.0 Supplies and materials	116	51	175	190
31.0 Equipment	116	2	145	171
[illegible]				
99.0 Total direct obligations	11,591	2,766	12,921	14,054
(Memo cost: 22.13)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5)

STANDARD FORM 304–T
June 1975, Office of Management and Budget Circular No. A-11, Revised. 304-103T

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
SALARIES AND EXPENSES

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 14-0107-0-1-306	19 76 actual	19 TQ	19 77 estimate	19 78 estimate
Personnel compensation:				
11.1 Permanent positions	33	13	34	34
[illegible]				
[illegible]				
[illegible]				
Total personnel compensation	33	13	34	34
Personnel benefits:				
12.1 Civilian	3	2	3	3
[illegible]				
[illegible]				
[illegible]				
[illegible]				
24.0 Printing and reproduction	1	---	1	1
25.0 Other services	2	---	2	2
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
[illegible]				
Total reimbursable obligations	39	15	40	40
99.0 Total obligations	11,630	2,781	12,961	14,094
	(Memo cost: 22.13)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5.9) (Memo cost: 5)

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
SALARIES AND EXPENSES
(PERSONNEL SUMMARY)

Identification code 14-0107-0-1-306	19 76 actual	19 TQ	19 77 estimate	19 78 estimate
Direct:				
Total number of permanent positions	441		441	441
Full-time equivalent of other positions	14		17	17
Average paid employment	407		425	440
Average GS grade	10.13		10.13	10.49
Average GS salary	$21,333		$22,353	$23,527
Reimbursable:				
Total number of permanent positions	1		1	1
Full-time equivalent of other positions	0		0	0
Average paid employment	1		1	1
Average GS grade	10.13		10.13	10.49
Average GS salary	$21,333		$22,353	$23,527
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

STANDARD FORM 306
July 1965, Bureau of the Budget
Circular No. A-11, Revised.
300-103

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
SALARIES AND EXPENSES

DETAIL OF PERMANENT POSITIONS

14-0107-0-1-306	19 76 actual	19 77 estimate	19 78 estimate
Executive Level IV	1	1	1
GS-18	1	1	1
GS-17	4	4	4
GS-16	4	4	4
GS-15	52	52	52
GS-14	77	77	77
GS-13	44	44	49
GS-12	24	24	34
GS-11	33	33	39
GS-10	2	2	3
GS-9	8	8	10
GS-8	18	18	18
GS-7	49	49	49
GS-6	64	64	54
GS-5	39	39	32
GS-4	16	16	11
GS-3	4	4	2
GS-2	2	2	2
Subtotal	441	441	441
Total permanent positions	442	442	442
Unfilled positions, end of year	-49	-19	-19
Total permanent employment, end of year	393	423	423
	(Mono cost: 16.3)	(Mono cost: 4.9)	(Mono cost: 4.9)	(Mono cost: 4)

GPO : 1973 O - 509-654

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

OFFICE OF THE SECRETARY

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

HIGHLIGHT STATEMENT

The fiscal year 1978 appropriation request for the account "Salaries and Expenses," Office of the Secretary, is $23,161,000 an increase of $1,791,000 over the amount expected to be available during fiscal year 1977.

Maintaining Current Level of Operations

An increase of $1,505,000 is needed to maintain the current level of support for existing staff operations. Included in this amount is $119,000 for the increased cost of space, services and facilities provided by GSA, $268,500 for postage, $85,000 for Federal Telecommunications services, and $41,438 for employee compensation payments. The remaining $1,001,062 is requested for within-grade step increases, annualization of new positions granted in fiscal year 1977 and other operational costs required to support the Office of the Secretary

Program Decrease

A decrease of $30,000 and 2 positions results from a reduction to the staff of the Under Secretary as a result of changing secretarial needs. A decrease of $100,000 and 3 positions results from an appropriation transfer of the Ocean Mining Administration from Salaries and Expenses to Departmental Operations. A decrease of 7 positions and $174,000 from the Office of Equal Opportunity is due to reductions in contract compliance activities.

Program Increases

Assistant Secretary-Program Development and Budget. An increase of $550,000 for contract studies in policy analysis, and environmental impact statement preparation.

Secretarial Operations. An increase of $30,000 and two positions in the Office of Personnel Services to begin implementation of new CSC programs in cyclic job audits and job classifications.

Appropriation requests for the Office of the Secretary require no additional authorizing legislation.

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

Appropriation, 1976	$ 18,734,000	
Pay Cost Supplemental	522,000	
Total Appropriation, 1976		$ 19,256,000
Appropriation, 1977	20,620,000	
Pay Cost Supplemental	750,000	
Total available, 1977		$ 21,370,000

SUMMARY OF INCREASES AND DECREASES, 1978

Increases:	Increase 1978	
Maintain current level of operations	+1,565,000	
Program Increases:		
Assistant Secretary Program Development and Budget	+500,000	
Secretarial Operations	+30,000	
Total Increases		+2,095,000
Decreases:		
Program Decrease:		
Office of Under Secretary	-30,000	
Equal Opportunity	-174,000	
Assistant Secretary - Energy and Minerals	-100,000	
Total Decreases		-304,000
Net Increase, 1978	1,791,000	1,791,000
Budget Estimate, 1978		23,161,000

DEPARTMENT OF THE INTERIOR

OFFICE OF THE SECRETARY

Budget Authority
(in thousands of dollars)

Account and Functional Code		1976 actual	1977 estimate	1978 estimate
Federal Funds				
General and Special Funds:				
Salaries and Expenses	306	$19,256	$21,370	$23,161
Departmental Operations	306	12,366	13,276	13,464
Salaries and Expenses (Special Foreign Currency Program)	306	1,494	907	1,000
Permanent Appropriations				
Litter Prevention and Clean-up	304	9	--	--
Total Federal Funds, Office of the Secretary		33,125	35,553	37,625

83-561 O - 77 - 91

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

Analysis by Activities

Activity	FY 1976 Amount Available	(Direct Appropriation) Fiscal Year 1977 Total Appropriation	Pay Cost Supplemental	Amount Available
1. Departmental Direction.....	$7,836,890	$8,327,400	$337,000	$8,664,400
2. Program Direction and Coordination....	2,128,053	2,431,000	105,000	2,536,000
3. Administrative Management.....	6,914,374	7,484,600	308,000	7,792,600
4. General Services.....	2,075,955	2,377,000	---	2,377,000
Unobligated balance lapsing..... (Available in Transition Quarter)	300,728	---	---	---
Total.....	19,256,000	20,620,000	750,000	21,370,000

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

Analysis by Activities

Activity	FY 1976 Amount Available	FY 1977 Amount Available	FY 1978 Estimate	Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
	(Direct Appropriations)				
1. Departmental Direction.....	$7,836,890	$8,664,400	$9,562,000	$+897,600	
2. Program Direction and Coordination.....	2,128,053	2,536,000	2,620,000	+84,000	
3. Administrative Management....	6,914,374	7,792,600	8,050,000	+257,400	
4. General Services.....	2,075,955	2,377,000	2,929,000	+552,000	
Unobligated balance lapsing.. (Available in Transition Quarter)	300,728	---	---	---	
Total.....	19,256,000	21,370,000	23,161,000	+1,791,000	

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

Analysis of Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Auth. Perm. Pos.	1978 Estimate	Auth. Perm. Pos.	Increase or Decrease (-) 1978 compared with 1977 Dollars	Pos.
1. Departmental Direction							
A. Immediate Office of the Secretary	575,529	665,000	16	697,000	16	+32,000	--
B. Executive Secretariat 1/	120,431	133,800	8	143,000	8	+9,200	--
C. Office of the Under Secretary	380,033	386,000	11	370,600	9	-15,400	-2
D. Field Coordination	792,171	838,000	22	919,100	22	+81,100	--
E. Office of Public Affairs 2/	390,740	418,000	14	429,300	14	+11,300	--
F. Office for Equal Opportunity	2,422,243	2,766,200	95	2,769,200	88	+3,000	-7
G. A/S Cong. & Legis. Affairs	847,793	822,000	36	890,400	36	+68,400	--
H. A/S Program Development & Budget	2,307,951	2,635,400	80	3,343,400	80	+708,000	--
Subtotal	7,836,890	8,664,400	282	9,562,000	273	+897,600	-9
2. Program Direction & Coordination							
A. A/S Energy & Minerals	622,180	705,500	20	641,000	17	-64,500	-3
B. A/S Land and Water Resources	590,690	644,100	21	680,000	21	+35,900	--
C. A/S Fish, Wildlife & Parsk	475,860	601,700	20	665,000	20	+63,300	--
D. Office of Territorial Affairs	437,623	584,700	17	634,000	17	+49,300	--
E. Office of Indian Affairs	1,700	--	--	--	--	--	--
Subtotal	2,128,053	2,536,000	78	2,620,000	75	+84,000	-3

1/ Formerly included in Office of the Under Secretary
2/ Formerly Office of Communications

S62-5

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

Analysis of Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Auth. Perm. Pos.	1978 Estimate	Auth. Perm. Pos.	Increase or Decrease (-) 1978 compared with 1977 Dollars	Pos.
3. Administrative Management							
A. A/S - Administration and Management	234,535	322,000	9	334,000	9	+12,000	--
B. ADP and Telecommunications Management	230,781	247,000	8	258,000	8	+11,000	--
C. Secretarial Operations	893,654	988,500	40	1,043,000	42	+54,500	+2
D. Audit & Investigations	3,012,076	3,421,600	132	3,543,000	132	+121,400	--
E. Administrative Services 1/	767,389	898,500	44	920,000	44	+21,500	--
F. Personnel Management	740,832	811,000	27	823,000	27	+12,000	--
G. Office of Administrative and Management Policy 2/	1,035,107	1,104,000	31	1,129,000	31	+25,000	--
Subtotal	6,914,374	7,792,600	291	8,050,000	293	+257,400	+2
4. General Services	2,075,955	2,377,000	--	2,929,000	--	+552,000	--
Unobligated balance lapsing (available in T.Q.)	300,728	--	--	--	--	--	--
Total	19,256,000	21,372,000	651	23,161,000	641	1,791,000	-10

1/ Formerly Office of Management Operations.

2/ Formerly Office of Management Services. Includes functions previously under Office of Management Consulting.

S&E-6

OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

Analysis of Increases

Activity/Subactivity	F.Y. 1977 Anticipated Appropriation Positions	F.Y. 1977 Anticipated Appropriation Funds	F.Y. 1978 Increases: Maintain Current Level of Operations	F.Y. 1978 Increases: Program Incr. New Positions and Related Funding	Total Increases Positions	Total Increases Funds	F.Y. 1978 Appropriation Request Positions	F.Y. 1978 Appropriation Request Funds
1. Departmental Direction:								
Immediate Office of the Sec'y	16	665,000	32,000	--	--	32,000	16	697,000
Executive Secretariat.....	8	133,800	9,200	--	--	9,200	8	143,000
Office of Under Secretary....	11	386,000	14,600	-30,000	-2	-15,400	9	370,600
Field Coordination.....	22	838,000	31,100	--	--	81,100	22	919,100
Office of Public Affairs.....	14	418,000	11,300	--	--	11,300	14	429,300
Office of Equal Opportunity..	95	2,766,200	177,000	-174,000	-7	-3,000	88	2,769,200
A/S - Cong. & Legis. Affairs	36	822,000	68,400	--	--	68,400	36	890,400
A/S - Program Dev. & Budget..	80	2,635,400	158,000	550,000	--	708,000	80	3,343,400
Subtotal.....	282	8,664,400	551,600	346,000	-9	897,600	273	9,562,000
2. Program Direction and Coord.:								
A/S - Energy and Minerals....	20	705,500	35,500	-100,000	-3	-64,500	17	641,000
A/S - Land & Water Resources	21	644,100	35,900	--	--	35,900	21	680,000
A/S - Fish & Wildlife & Parks	20	601,700	63,300	--	--	63,300	20	665,000
Office of Territorial Affairs	17	584,700	49,300	--	--	49,300	17	634,000
Subtotal.....	78	2,536,000	184,000	-100,000	-3	+84,000	75	2,620,000

OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

Analysis of Increases

Activity/Subactivity	F.Y. 1977 Anticipated Appropriation Positions	F.Y. 1977 Anticipated Appropriation Funds	F.Y. 1978 Increases: Maintain Current Level of Operations	F.Y. 1978 Increases: Program Incr. New Positions and Related Funding	F.Y. 1978 Increases: Total Increases Positions	F.Y. 1978 Increases: Total Increases Funds	F.Y. 1978 Appropriation Request Positions	F.Y. 1978 Appropriation Request Funds
3. Administrative Management:								
A/S - Administration & Mgmt.....	9	322,000	12,000	--	--	12,000	9	334,000
ADP & Telecommunications Mgmt...	8	247,000	15,000	--	--	11,000	8	258,000
Secretarial Operations.....	40	988,500	24,500	30,000	+2	54,500	42	1,043,000
Audit & Investigations.....	132	3,421,600	121,400	--	--	121,400	132	3,543,000
Administrative Services.....	44	898,500	21,500	--	--	21,500	44	920,000
Personnel Management.....	27	811,000	12,000	--	--	12,000	27	823,000
Management Policy.....	31	1,104,000	25,000	--	--	25,000	31	1,129,000
Subtotal.....	291	7,792,600	227,400	30,000	+2	257,400	293	8,050,000
4. General Services.....	--	2,377,000	552,000	--	--	552,000	--	2,929,000
TOTAL SALARIES AND EXPENSES.....	651	21,370,000	1,505,000	276,000	-10	1,791,000	641	23,161,000

1. Departmental Direction: Fiscal year 1977, $8,664,400; Fiscal year 1978, $9,562,000; increase of $+897,600. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) +$32,000	--	$ 697,000	16	Immediate Office of the Secretary - increased cost of daily operations
(B) +9,200	--	143,000	8	Executive Secretariat - maintain current level of support
(C) -15,400	-2	370,600	9	Office of the Under Secretary - reduction in staff due to changing needs
(D) +81,100	--	919,100	22	Field Coordination - increased cost of daily operations
(E) +11,300	--	429,300	14	Office of Public Affairs maintain current level of operations
(F) +3,000	-7	2,769,200	88	Office for Equal Opportunity - reduction in contract compliance activities
(G) +68,400	--	890,400	36	A/S Congressional & Legislative Affairs - maintain current level of operations
(H) +708,000	--	3,343,400	80	A/S Program Development and Budget - new studies, expanded environmental program.
+897,600	-9	9,562,000	273	

Program Synopsis

Departmental Direction provides the overall policy guidelines to the operating entities of the Department of the Interior. This activity sets the standards by which the Department is run by establishing priorities and determining the allocation of all Departmental resources.

A. Immediate Office of the Secretary

Fiscal Year 1977, $665,000; Fiscal year 1978, $697,000; increase of $32,000.

Proposal

The requested increased funding is necessary to provide for the additional cost of salaries and benefits, travel and related support for a Cabinet level office

Justification

The Secretary must have a staff with sufficient resources to carry out his directions for the Department. It is impossible for the Secretary to be fully involved in every aspect of the many programs of the agency. Staff personnel prepare and coordinate the Secretary's time to insure effective operation of the Department. The additional funding requested will provide for minor increases to operating costs for the office. The additional costs of salaries and benefits are the result of normal within grade increases, and promotions. The increased funds for travel represent the need for the Secretary to review the Departments programs in the field, to visit the parks, review construction of dams and inspect the ranges. The balance of the increased costs are due to other support services in the office, such as printing and supplies.

Cost Factors

Increased cost of salaries and benefits	$ +23,800
Travel	+6,000
All other support costs	+2,200
Total Increase	32,000

Program Description - The Immediate Office of the Secretary provides the direct staff assistance to the Secretary necessary for the overall direction and coordination responsibilities for the Department, and the day-to-day administrative activities required by this cabinet level office. These essential functions place a heavy burden on the current staff.

B. Executive Secretariat

Fiscal year 1977, $133,800; Fiscal year 1978, $143,000; increase of $9,200.

Major Program Changes

The Executive Secretariat was previously reflected in the account of the Under Secretary.

Proposal

The additional funding is necessary to provide for the increased cost of daily operations.

Justification

This office represents the personal priorities that the Secretary of the Interior places on decisiveness and responsiveness in Department operations. The role of the Executive Secretary was enlarged in scope and importance to assure:

- that decision making and implementation proceeds in an orderly and timely fashion;

- that decisions are based on thorough and balanced presentation of data;

- that actions mandated to the Department by the President, Congress or courts are carried out; and

- that replies to communications from members of the Congress and the public are prompt, responsive and accurate.

Cost Factors

Increased costs of:

salaries and benefits	$ +7,200
machine rental	+2,000
Total Increase	+9,000

Program Description - The Executive Secretariat provides a critical focal point for decision making and communication processes. Its importance is major in a department such as Interior with conflicting constituencies and missions. The office provides a neutral, process oriented center for assuring due process among and balanced attention to conflicting interests on many controversial decisions required in Interior. The Secretary considers it a vital element for insuring that he receives balanced, high quality input from all parties of interest. Similarly, he relies on the Executive Secretary to ensure clear and timely communication of decisions and commitments he makes to those who will carry them out.

The Executive Secretariat provides a control point for the Secretary and Under Secretary. It maintains calendars of issues requiring early Secretarial attention, action forcing events and implementation schedules for key decisions and objectives. Control dockets are maintained for significant Secretarial correspondence and other documents. Oral and written briefings are arranged and special highlight and status reports prepared to assure that the Secretary and Under Secretary are prepared for meetings and promptly alerted to budding issues which may require their personal attention.

C. Office of the Under Secretary

Fiscal year 1977, $386,000; fiscal year 1978, $370,600; decrease of $15,400.

Major Program Changes

Resources for the Executive Secretariat are shown as a separate subactivity. A reduction of two positions from the staff support of the Under Secretary's Office is due to changing needs.

Proposal

A reduction in the staff of the Office of the Under Secretary does not lessen the importance of the office and the major role the Under Secretary plays in support of the Secretary, but limited resources available to the Secretariat, and changing needs, result in management decisions to utilize resources where they are most critically needed. The adjusted budget request reflects the necessary funds to operate the Office of the Under Secretary.

Justification

The Office of the Under Secretary has responsibility for oversight and review of the Alaska Pipeline Activities, Territorial Affairs and the Office of Equal Opportunity. The requested funds represent the amounts necessary to continue daily operations due to increased salary and related costs.

Cost Factors

The net reduction is a result of a decrease in two positions and related funding, and normal increases for the additional cost of daily operations.

Program Description - The Under Secretary assists the Secretary in the discharge of his duties and, in his absence, performs his functions. With the exception of certain matters reserved by the Secretary, the Under Secretary has the full authority of the Secretary. The Under Secretary enjoys a major role in the management of Interior affairs and has been assigned duties which are designed to move the Department ahead with decisive, results-oriented leadership.

D. Field Coordination

Fiscal year 1977, $838,000; fiscal year 1978, $919,100; increase of $81,100.

Proposal

The additional funding requested will provide the Secretary's Office with the necessary resources to fully staff each of the field offices. The additional salary and benefit funds will provide for normal increased costs, hiring of temporary support personnel to assist in operating these small offices and full year funding for the complement of 22 permanent positions. The representative of the Secretary in the field must travel to do an effective job. The regional districts cover wide geographic areas, and travel is essential to review programs and report to the Secretary on the Department's progress.

Justification

Field Coordination provides liaison among Federal, state and local governments, environmentalists, consumers, citizens committees, etc., and they make government more responsive to the public by providing open participation in the decision making process on major issues of public concern.

Cost Factors

Increased Funding for:

salaries and benefits	$ +54,300
travel and transportation	+9,000
all other support costs	+17,800
Total Increase	81,100

Program Description - The Secretary's Field Organization is responsible for coordinating a wide variety of inter-agency, inter-disciplinary matters vital to the public interest, including environmental review, FRC activities, intergovernmental affairs, public information, and consumer affairs. Specific programs include hearings on proposed strip mining and coal leasing activities, public nominating hearings, joint agreements for enforcement of coal mining regulations, and OCS activities.

Eight Special Assistants and three Federal Regional Council Representatives with related clerical support presently serve on the Field Coordination staff.

E. Office of Public Affairs

Fiscal year 1977, $418,000; Fiscal year 1978, $429,300; increase of $11,300.

Major Program Changes

The Office of Communications has been renamed the Office of Public Affairs which more aptly describes the functions and duties of this organization.

Proposal

Increased funding to provide for increased cost of daily operations.

Justification

The Office of Public Affairs is staffed to create a timely, orderly and dignified information flow to the public concerning the stewardship over the Nation's resources exercised by the Secretary of the Interior and his staff.

Cost Factors

Increased costs of salaries, benefits and related support $ +11,300.

Program Description - The Office presents factual data and policy elucidation in such critical areas as: coal leasing, outer continental shelf oil leasing, etc. The necessity of giving the public information on these matters is vital to informed citizen input to the decision making process affecting energy and resource management policy.

Increased interest and public knowledge pertaining to use of our limited natural resources has generated an ever increasing number of inquiries to the Department of the Interior by the media and the public. As spokesman for the Department, the Assistant to the Secretary and Director of Public Affairs enlists the professional and support help of his staff of 14 to fulfill the Department's obligations. The staff is composed of professional information officers (for both external and internal communications) and secretarial and management support backup for the professional information staff to insure optimum efficiency and effectiveness in management.

F. Office for Equal Opportunity

Fiscal year 1977, $2,766,200; fiscal year 1978, $2,769,200; increase of $3,000.

Proposal

Reduction of 7 positions and $174,000 due to a decrease in contract compliance activities and an increase of $177,000 to fully fund the operations of this office.

Justification

The Office for Equal Opportunity provides top level management and direction of the Department's equal opportunity programs which are carried out in compliance with the Civil Rights Act of 1964 (P.L. 88-352), the Trans-Alaska Pipeline Act, related statutes, and applicable Executive Orders.

The Administration's readjustment of contract compliance programs results in a decrease of seven positions and $174,000 in FY 1978 from the base FY 77 budget. This reduction is due to transfers of certain responsibilities to another federal agency.

This reduction in funds is offset by the need for additional funds to maintain operations for the revised staff level. The programs which come under Equal Opportunity review are nationwide and require travel. These programs must be physically reviewed to determine compliance with the various laws and regulations. OEO personnel are requested to assist bureau personnel staffs in review of complaints, and assist in other programs at the field office locations. Additional funds in the amount of $33,000 are necessary to cover increased travel costs. Increased costs of salaries, due to within grade increases, promotions, hiring of temporary personnel and disadvantaged youth, and the increased cost of governments share of personnel benefits paid to employees account for $135,200 The remainder of the increase, $8,800, is necessary to provide for the increased cost of daily operations, such as printing, supplies, publications and other support services.

Cost Factors

The adjusted increase requested in FY 1978 is as follows:

	Base FY 77	7 Position Reduction	Maintain Current Support	FY 78 Request	Net Increase
Salary.....	$2,066,500	$-112,000	$+114,700	$2,069,200	$+2,700
Benefits.....	186,500	-11,000	+20,500	196,000	+9,500
Travel.....	235,000	-25,000	+33,000	243,000	+8,000
Transportation...	25,000	--	-2,000	23,000	-2,000
Rent, Communication and Utilities...	84,000	-10,000	+2,000	76,000	-8,000
Printing.....	20,000	--	+2,000	22,000	+2,000
Other services...	88,500	-10,000	+1,500	80,000	-8,500
Supplies.....	32,000	-3,000	+2,000	31,000	-1,000
Equipment.....	28,700	-3,000	+3,300	29,000	+300
Total...	2,766,200	-174,000	+177,000	2,769,200	+3,000

Program Description - OEO is organized into the following functional areas:

1. Federal Equal Employment Opportunity Program - This division coordinates a Departmental EEO Program which requires actions by each bureau and office to ensure equal opportunity for women and minorities in employment matters and all related activities that affect their employment. In carrying out this mission, the Office ensures that the Program: (1) reflects the intent of and is responsive to relevant laws, Executive Orders, Civil Service Commission regulatory requirements, and special emphasis programs (Federal Women's Program and Spanish Speaking Program); (2) provides for adequate resources and quality leadership for effective program implementation at all levels throughout the Department, resulting in the realization of true equality of opportunity for all employees and

applicants for employment regardless of race, color, religion, sex, national origin, or age; (3) provides for a system of timely complaint processing through which employees or applicants for employment may seek and secure corrective measures on any acts of discrimination against them.

2. Federal Assistance Programs - Title VI, Civil Rights Act of 1964 - The Title VI Compliance Division is charged with the education and enforcement responsibility for the Department's Federal Assistance Programs. The Division conducts onsite compliance review programs, provides technical assistance to Departmental bureaus and offices and to recipients of Departmental Federal Assistance Programs, investigates charges of discrimination, and conducts a program of preaward reviews.

3. Minority Business Enterprise Program - The Minority Business Enterprise Program, MBEP, was established by Executive Order 11458 as amended by Executive Order 11625.

   The Department's mission in the MBEP is twofold: first, to assist minority entrepreneurs seeking business with the Department; and second, to assist the Department and its bureaus and offices in identifying and securing business for the minority entrepreneur.

4. Contract Compliance Program - The Contract Compliance Program determines whether certain government contractors and subcontractors are equal opportunity employers and are practicing non-discrimination in hiring and other employment practices in accordance with Executive Order 11246. The Department is responsible for all companies within the following industries: petroleum refining and related industries, oil and gas extraction, mining and quarrying, rubber and plastic products, petroleum products marketing, forestry, fishing, pipeline transportation, wholesale metals and minerals, hotels, motels and other lodging places, and automobile accessory stores.

5. Trans-Alaska Pipeline Program - This responsibility includes monitoring and enforcement of Section 403 of the Trans-Alaska Pipeline Act (PL 93-153) which requires equal opportunity in employment and contracting by the contractors, subcontractors and permittees involved in the construction of the pipeline. This program also includes investigation of complaints of discrimination filed by employees, applicants for employment, and minority or female contractors.

   Some of the accomplishments in this program are:

   1. Exceeded the goal of 1,000 Alaska Natives trained and hired in the first year of construction by more than 1,300.

   2. Exceeded the project goal of $155 million in contracts and purchase orders awarded to minority and female-owned firms by well over $56 million.

   3. Increased utilization of females in non-traditional jobs directly connected with the construction in thirteen months from 21 to 1,218.

   4. Conducted on-site reviews and investigations in all camps, pump stations and the terminal facility.

As the workload for the Trans-Alaska Pipeline decreases, the manpower now devoted to this program will be returned to other OEO areas from which it has been loaned.

G. Assistant Secretary - Congressional and Legislative Affairs

Fiscal year 1977, $822,000; fiscal year 1978, $890,400; increase of $68,400.

Proposal

Requested increases will provide additional resources to accommodate the rising costs of publications, Congressional material, printing and full funding of positions.

Justification

The Assistant Secretary - Congressional and Legislative Affairs has Secretarial authority and direct responsibility for Congressional Liaison and legislative activities.

The increased cost of printed material, such as Congressional Records, Hearings and documents and that which the office prepares, i.e., briefing materials, copies of legislation or bills, has risen over the past few years to a point where additional funding is necessary to meet these increased costs. Rental of word processing machines, xerox, and information and catologue inventory systems are essential to an office that produces such a volume of correspondence and paper work. The requested salary and benefits increases will provide for full funding of permanent positions, and hiring of temporary support personnel as needed during the peak work periods.

Cost Factors

Increased funding is necessary in the following areas:

Salaries and benefits.....	$ +51,400
Decreased travel.....	-4,000
Rental of equipment.....	+7,000
Additional printing costs.....	+5,000
Additional publications, briefings and related costs.....	+9,000
Total Increase.....	68,400

Program Description

The Office of Congressional Liaison - acts as principal liaison between the Department, Congressional Committees and individual members of Congress. This office communicates the policies and positions of the Department and the viewpoints of the Secretary regarding Congressional issues on programs and matters of interest to the Department as requested by members of Congress. This office arranges for and participates in briefings on administration of all programs.

In addition, the Office of Congressional Liaison coordinates a variety of requests from members of Congress relating to special interests of their constituents, and directs to the proper staff office or bureau special inquiries and requests for information or publications and employment inquiries.

The Office of Legislation - is responsible for the unification and coordination of the Department's legislative program and its presentation to the Office of Management and Budget and the Congress. The office consults with the Secretarial offices, the Solicitor, and bureau officials in the determination of policy incident to proposed or pending legislation and reports on legislation or recommendations for Presidential approval of veto for enrolled bills.

The Office of Legislation reviews all legislative documents submitted by the bureaus and offices, combines reports, and coordinates and arranges departmental representation at Congressional hearings, including participation in preparation of witness statements. It is responsible for establishing and maintaining contacts on legislative matters with the Congress and executive agencies; for providing legislative information for use within the Department, such as advance notice of hearings and status reporting on pending legislation; and for providing a clearinghouse on legislative matters.

H. Assistant Secretary - Program Development and Budget

Fiscal year 1977, $2,635,400; fiscal year 1978, $3,343,400; increase of $708,000.

Major Program Changes

An increase of $350,000 for Policy Analysis studies to supplement staff capabilities and $200,000 for development of environmental guidance and training in EIS preparation represent the largest part of the requested increase. The balance of the increase is for salary costs, benefits, travel and other related support to provide the necessary resources for this office to continue vital review of Departmental programs.

Proposal

Additional funding in the amount of $75,700 for salary costs and $30,300 for benefits is necessary in FY 1978. This requested increase is due to within grade increases, promotions, and anticipated full employment in both the Budget Office and Policy Analysis staff. The rising costs of the governments share of personnel benefits coupled with under estimating of these costs in the past represent what appears to be a high increase in this area.

Increased travel funds in the amount of $14,100 are necessary for staff of this Office to assist and review Environmental Impact Statement preparation in the field by bureaus, other federal agencies and state governments. Members of the Policy Analysis staff must review bureau programs in the field and participate in bureau conferences and meetings at regional offices to enable that office to make sound and reasonable judgements on Departmental priorities. The work of this office involves printing and publishing documents, decisions and briefings which, based on the increased cost of these items, requires additional funds for printing, xerox rental, supplies, typewriter rentals, training, and other support services (,900). Model studies and data information compiled by the staff of this office and processed by the computer leased time required to run these programs, as well as additional programing costs will require additional funding of $ 15,000 in FY 1978.

Additional funding of $550,000 is requested for contract studies to assist this office is providing complete information to the secretary on major decisions confronting the Department.

Justification

Office of Policy Analysis - $350,000 for Contract Funds

The Office of Policy Analysis will use $250,000 of the requested contract funds to maintain and enhance its currently limited contracting capability. Contract areas will follow very closely the decision agenda of the Department, so that exact specification of areas for study in FY 1978 cannot realistically be made now. Firm commitments to specific studies now would almost inevitably result in misuse of resources as the identity and priority of Departmental issues requiring contract work for resolution are subject to continued change. However, likely areas of activity include such areas of ongoing policy interest as OCS oil and gas (alternative bidding systems and lease terms, fair market valuation and bid rejection, environmental balancing and protection, onshore impacts), western coal development (market demand for federal coal, areas suitable for mining, tract selection and evaluation, lease terms for environmental protection, facilities siting), land use (federal multiple use planning, coastal zone management consistency), and fish, wildlife, parks and recreation (endangered species, land acquisition, operations and maintenance, federal roles).

Furthermore, some subjects have a very high probability of receiving continued attention through contract work:

-- design of experiments for testing alternative bidding systems for OCS oil and gas

-- improved specification of the oil spill model used in pre-sale evaluation of environmental riskiness of prospective OCS lease tracts

-- evaluation and refinement of the government bid rejection rule used to obtain fair market value for OCS oil and gas

-- coal mine simulation modelling as a policy analysis tool for evaluating the effects of alternative bidding arrangements and lease terms (e.g., diligence requirements, royalty rates) and as a basis for determining fair market value

Individual contracts will generally be of relatively modest size and duration and focused on specific matters facing Departmental decision. Their unique character will be their design and supervision by senior level analysts, principally economists, who have a broad view across Department programs and are closely tied to the decision process. Contract studies will generally focus on those particular aspects of a larger policy issue which involve the application of analytic techniques or information already developed by an outside person or group. This allows both a stronger analysis of such aspects and the devotion of more resources to other aspects.

The Office has carried out a limited number of contract studies in the past. Recent examples are (1) a study of methods of enhancing competition for federal coal which was highly useful in responding to legislative consideration of railroad leasing of federal coal and which is currently guiding formulation of leasing arrangements under the new competitive coal leasing program and (2) a study of alternative timber cut policies in western Oregon which is currently underway and will trace out the implications of alternative cut policies for timber inventories and yields in preparation for a Secretarial decision. However, lack of funds has prevented the Office from carrying out contract studies in many areas where such work would have assisted the Department. Some of that work has been entered into through support of other parts of the Department--examples are a BLM contract study on coordinating individual management framework planning efforts and GS supported work on a coal mine simulation model for tract evaluation purposes. However, working through other

offices has entailed a loss of control over the scope and methods of resulting studies which has been undesirable. Other matters on which useful contract work could have been done have received no support. In some cases, this has meant a major commitment of Office of Policy Analysis staff resources to perform elements of work which would have been better contracted out. This has been done when the issue was too important to let go or treat lightly--an example is cost/benefit procedures for evaluating rangeland investments. However, in most cases lack of funds has meant problem areas left unaddressed--for example, work to define exactly what showing a preference right lease applicant must make to gain a lease, which is necessary to implement the Department's recent policy on commercial quantities.

The capability of the Office to do even the very limited amount of contract work which it has done in the past is in the process of disappearing. Funding for past contract work has come from staff vacancies which are now being filled as a result of significant new responsibilities being assigned to the Office. These new responsibilities are in areas requiring Departmentwide policy analysis and policy coordination and include the Departmental lead on coastal zone management activities and the Alaska Task Force. These new responsibilities increase the need for contract funds, but staffing to carry them out will reduce the Office's minimal contracting capability unless needed new contract funds are made available.

An additional $100,000 is requested to conduct an evaluation of the Endangered Species Program covering the effectiveness and cost of current implementation efforts, the costs and effectiveness of alternative implementation strategies, the eventual size of the program, and possible amendments to the Endangered Species Act.

Environmental Project Review - $ 200,000 for Contract Funds

It is further proposed to place in the Office of Environmental Project Review funds for contracts amounting to $200,000 for the development of environmental guidance and training. A contract study is proposed which would be the basis for the promulgation of Departmental guidelines for the collection of environmental data and preparation of environmental reports by private industry applicants for rights-of-way, permits, and contracts related to energy facilities. Another contract is proposed for the development of an urgently needed training program for those environmental specialists who are responsible for NEPA compliance throughout the Department.

The requested additional funds for salaries and benefits, travel, printing, supplies, computer rental and other support costs are necessary to continue support of this office with the high degree of professionalism and expertise that is necessary for review of Departmental programs and guidance to the Secretary on the many critical issues facing the Department.

Cost Factors

Increased funding is necessary in the following areas:

Salaries - within grade increases, promotions, full year funding of all positions, and additional temporary help	$ +75,700
Benefits - fully funded government's share of benefits paid to employees	+30,300
Travel - to review bureau programs, and assist in EIS workload	+14,100
Contract studies	+550,000

83-561 O - 77 - 92

Computer service and related support.....	+15,000
All other support costs - printing, supplies, telephone and equipment rental.....	+22,900
Total Increase.....	+708,000

Program Description - The Assistant Secretary --Program Development and Budget conducts a continuing evaluation of budget and policy matters through the systematic review of bureau and office policy, program, budget, and legislative initiatives presented by the respective Assistant Secretaries. He advises the Secretary on programs which demand Secretarial attention because of their national concern, legislative requirements, precedent setting nature, or because the issues and activities involved cross bureau or office lines (such as outer continental shelf leasing, geothermal development, oil shale, etc.). He is responsible for assuring appropriate implementation of established policy. The office is responsible for the Department's budget process and Departmental compliance with the National Environmental Policy Act, and the coordination of all international programs involving the Department.

Immediate Office - The Immediate Office of the Assistant Secretary--Program Development and Budget provides Secretarial direction and supervision over the Office of Budget, Office of Policy Analysis, Office of Environmental Project Review, and the Office of OCS Program Coordination.

Office of Policy Analysis - This office provides organizational, economic, evaluative and legislative analysis of Departmental programs and issues in support of development of new programs, modification of existing programs, and development of the Department's budget and legislative plan. This office provides policy analysis for Secretarial guidance to bureaus and offices, develops options and issue analyses, and coordinates with the Office of Budget in execution of Departmental policies through budget formulation and execution.

The Office of Policy Analysis is organized into three sections:

- Programs - Program analysts, specialized by bureau and office areas, assume responsibility for program development, monitoring, and evaluation on a detailed basis, assisting in formation of the Department's budget and legislative plan.

- Studies - The Studies staff is responsible for the long-term studies assigned to the Assistant Secretary--Program Development and Budget. For example, the land use planning study of the National Petroleum Reserve in Alaska, and coastal zone management plan reviews by various bureaus are monitored and coordinated in this section.

- Economics - The economics staff performs special economic analysis of bureau and office programs and new initiatives.

Office of Environmental Project Review - This Office provides Department-wide oversight for environmental quality in natural resources management. The main responsibility of this Office is to provide guidance to the bureaus and offices in meeting the Department's responsibilities under the National Environmental Policy Act of 1969 and Executive Orders 11514 and 11752. The staff coordinates and establishes policy and guidance for the preparation and review of environmental statements under consideration by the Department. The staff is composed of professionals from various natural resources and environmental disciplines and reviews the environmental impacts of Departmental and other agency actions to insure that the full and balanced interests of the Department are considered.

The Office of Environmental Project Reveiw, is organized into five sections:

- Land use and management - This section is composed of foresters, mining engineers, and biologists and reviews projects and programs affecting land use and management such as land use plans, recreation developments, timber and grazing activities, mineral leasing and mining, oil and gas leasing and drilling, urban developments, wildlife programs, and solid waste and pesticide regulations.

- Water resources - This section is composed of civil and sanitary engineers and biologists and reviews projects and programs affecting water resources such as river basin and watershed plans, dams, canals, hydroelectric facilities, water supply and sewage treatment plants, levee and channelization projects, dredge and fill activities, and water quality standards.

- Energy facilities contains chemical and mechanical engineers and biologists and reviews energy facilities such as fossil fuel and nuclear power plants, refineries, gasification plants, transmission lines, pipelines, and noise and radiation and air quality standards.

- Transportation - This section is composed of transportation and natural resources specialists and reviews transportation projects and programs such as highways, railroads, airports, mass transit, bridges, and historic preservation regulations.

- Document control - This section receives and controls the documents reviewed by the Office and manages the project review files.

The Office of Budget - has the primary staff responsibility in the Department for Budget and related financial administration. The Office develops overall Departmental policy and procedures and provides Departmental direction, review and coordination for all phases of the budget process. It is the Department's budgetary and financial liaison on appropriations and funds matters with the Office of Management and Budget, the Appropriations Committees of the Congress, the Treasury Department and others. The Office reviews the content of all budgetary material, including proposals for supplementary budget requests and for reprogramming funds, and fiscal and financial reports. It also maintains control of the limitations imposed by the Congress and by the Office of Management and Budget on the funds appropriated and the positions allotted to the Department.

Assistant Secretary - Program Development and Budget
Listing of Funds and Positions for Fiscal Year 1977 and 1978 and Distribution of Increases

	F.Y. 1977 Base		Current Staff Support	Program Increases		Total Increases	F.Y. 1978 Estimate	
	Funds	Pos.		Funds	Pos.		Funds	Positions
Immediate Office.....	$ 287,200	8	$ 14,400	$ --	--	$ 14,400	$301,600	8
Office of Policy Analysis.....	1,025,500	31	95,000	250,000	--	345,000	1,370,500	31
Environmental Project Review..	751,000	24	65,400	250,000	--	315,400	1,066,400	24
Office of Budget.....	571,700	17	33,200	--	--	33,200	604,900	17
Total.....	2,635,400	80	208,000	500,000		708,000	3,343,400	80

2. Program Direction and Coordination: Fiscal Year 1977, $2,536,000; Fiscal year 1978, $2,620,000; increase of $84,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Position	Explanation
(A) $ -64,500	-3	$ 641,000	17	A/S Energy and Minerals - transfer Ocean Mining Admin. responsibilities
(B) +35,900	--	680,000	21	A/S Land and Water Resources - maintain current level of support
(C) +63,300	--	665,000	20	A/S Fish, Wildlife and Parks - full year funding for FY 77 new positions and maintain current staff support
(D) +49,300	--	634,000	17	Office of Territorial Affairs - additional funding for current staff support
+84,000	-3	2,620,000	75	

Program Synopsis

Program Direction and Coordination is comprised of the three line assistant secretaries and the Office of Territorial Affairs. These organizations have responsibility for directing the operations of the Departments' programs and provide policy direction on matters concerning the domestic welfare and the conservation and development of the nations resources.

A. Assistant Secretary Energy and Minerals

Fiscal year 1977, $705,500; Fiscal year 1978, $641,000; decrease of $64,500.

Major Program Changes

(1) Functional transfer to Ocean Mining Administration	$-100,000,	-3 positions
Maintain current level of support	+35,500	

Proposal

New initiatives for the Ocean Mining Administration in FY 1978 require a transfer of 3 positions to the Departmental Operations appropriation. Additional funding is required to fully fund all 17 positions in this office.

Reduction of lapses in vacant positions, within grade salary increases and the adjustment of other program costs represent the need for this increase. The combination of OMA transfers and additional funding necessary for current staff support result in a net decrease in this activity.

Justification

Increasing emphasis on energy related activities will require a responsive staff to direct bureau programs in development and utilization of the Nations' natural resources.

Cost Factors

Adjustments in estimated costs for this program are as follows:

	Base FY 77	Adjustment for OMA Transfer	Requested Increases FY 78	Total Request FY 78
Salary	$ 581,200	$ -89,000	$ +38,300	530,500
Benefits	55,500	-8,000	+4,000	51,500
Travel	31,000	-3,000	--	28,000
All other support costs	37,800	--	-6,800	31,000
Total	705,500	-100,000	+35,500	641,000

Program Description - The Assistant Secretary--Energy and Minerals has Departmental authority and direct responsibility for the management and policy direction with respect to the Department's activities for development and utilization of national energy and minerals resources including: topographic, geologic, energy and mineral resource appraisal matters; management of leases on Federal lands; energy and mineral data and analysis; metallurgical, mining, and mine health and safety research and development; inspection and training programs for mine health and safety; generation, transmission and marketing of electric power except for those functions performed by Bureau of Reclamation; developing and implementing emergency preparedness functions affecting energy and minerals functions; coordination, management and policy guidance for developing effective deep seabed mining capabilities, and provides coordination of Interior's operations with the board of Geographic Names.

The Assistant Secretary--Energy and Minerals exercises Secretarial direction and supervision over the Geological Survey; Bureau of Mines; Mining Enforcement and Safety Administration; the Bonneville, Southwestern, Southeastern and Alaska Power Administrations; Office of Minerals Policy Research and Analysis; Ocean Mining Administration; and the Energy Emergency Preparedness staff.

B. Assistant Secretary - Land and Water Resources

Fiscal year 1977, $644,100; Fiscal year 1978, $680,000; increase of $35,900.

Proposal

Additional funding requested will provide for the normal increased cost of daily operations.

Justification

The net increase of $35,900 over the FY 1977 level of $ 644,100 is needed to provide for the increased cost of daily operations and to provide this office with the necessary support resources to adequately accomplish its mission.

Increases are needed for travel and per diem costs in order to maintain the necessary travel requirements connected with mineral and OCS leasing, field environmental hearings, and greater contacts with land and water constituency groups in the Western States and Alaska. Other requirements are for the increased costs of maintaining the office functions. These include salary increases, adjustments in the government's share of benefits, printing, supplies and other services.

Cost Factors

Increased funding requested will be used in the following areas:

salary (within grade increases, promotions)	$ +10,800
benefits (adjustment in government share)	+10,300
travel (to review bureau programs)	+4,100
other support costs	+10,700
Total Increase	+35,900

Program Description - The Immediate Office of the Assistant Secretary - Land and Water Resources discharges the duties of the Secretary with respect to the management and development of land and water resources. The Assistant Secretary exercises Secretarial direction and supervision over the Office of Water Research and Technology, the Bureau of Reclamation, and the Bureau of Land Management. He also is responsible for developing and maintaining emergency plans to meet military and essential civilian requirements as they relate to water resources.

This office is engaged in meeting departmental priority demands for accelerated gas, coal, geothermal, and oil shale leasing, water for energy demands, as well as other critical needs, environmental assessments of departmental actions, development of legislative proposals, and in the direction and supervision of programs affecting the Nation's land and water resources.

C. Assistant Secretary - Fish and Wildlife and Parks

Fiscal year 1977, $601,700; Fiscal year 1978,$665,000; increase of $63,300.

Proposal

The additional funding requested is to provide full year funding for the three new positions approved by Congress in FY 77. Only partial year funding was requested in the FY 77 budget for these positions as it would take sometime for recruitment. Partial absorption of past year pay costs, increased cost of the government's share of benefits, and other normal increases in the cost of daily operations account for the remainder of the requested funds.

Justification

The Assistant Secretary for Fish and Wildlife and Parks discharges the duties of the Secretary in areas of development, conservation and utilization of fish, wildlife, recreation, historical and national park system resources of the Nation. These duties require a dedicated professional staff. The present staff provide the policy and oversight for programs vital to the national interest. New programs such as Bicentennial Land Heritage Program, and the establishment of the Historic Preservation Fund, as well as the expansion of the Land and Water Conservation Fund have placed additional responsibilities upon this Assistant Secretary. Full funding of all positions and adequate support costs are necessary to carry out the mission of the Secretariat in these and other program areas of Fish, Wildlife and Parks.

Cost Factors

The additional fund is necessary in the following areas for full year funding of FY 77 new positions:

Salary	$ +30,000
Benefits	+3,000
Travel	+2,000
Subtotal Increase	+35,000

For continued support of daily operations:

Salary	$ +12,700
Benefits	+4,900
Travel	+2,600
All other support costs	+8,100
Subtotal Increase	+28,300
Total Increase	+63,300

Program Description - The Assistant Secretary - Fish, Wildlife and Parks exercises Secretarial direction over the Fish and Wildlife Service, the National Park Service and the Bureau of Outdoor Recreation.

During recent years the programs in the conservation and use of natural resources have expanded greatly. Of particular importance are new or expanded programs of energy development, general environmental protection, protection of estuarine areas, endangered and threatened species, marine mammals, and the expansion and increased utilization of parks and recreational opportunities.

D. Office of Territorial Affairs

Fiscal year 1977, $584,700; Fiscal year 1978, $634,000; increase of $49,300.

Proposal

The additional funding requested is necessary to provide for the increased cost of daily operation. These increases are due to rising cost of communications to the Territories, additional printing of reports and data, and other support costs. The largest increase is in the area of travel. Direction and guidance over the new and emerging Territorial Government cannot be done solely from Washington. It is essential for staff members of this office and, from time to time, other outside experts to review the Territorial programs in the field. The remaining increased funding is in the area of salary and benefits due to within grade increases, promotions and increased cost of government's share of benefits.

Justification

The requested increased funding is necessary for the Office of Territorial Affairs to continue its direction and guidance over the vast Territorial Government. The additional travel funds are essential to enable the office to have onsite personnel to review problems, meet with local officials and work with the various Territorial Governments on their programs. The other requested increases are due to normal increased costs of daily operations, such as within grade increases, supplies, publications, printing and other support costs.

Current projects of the Office of Territorial Affairs staff include:

- increased responsibility in implementation of financial management systems in American Samoa and Trust Territory of the Pacific Islands
- provide a needs assessment study of Guam including financial management systems, taxes, socio-economic planning and development
- increase coordinating activities with all Federal Agencies through the Inter-Agency Task Force on Federal Programs as they relate to the Territories
- increased activity regarding status and relationship of various territories with the United States
- responsibility to insure that recently enacted loan guarantees, by the Secretary of the Interior, to the Virgin Islands and Guam are fulfilled

Program Description - The Office of Territorial Affairs has the responsibility for the overall general administration of the Trust Territory of the Pacific Islands and American Samoa. Assistance to Guam and the Virgin Islands is also provided as requested by the Governors and their department heads. The Federal Comptrollers for both Guam and the Virgin Islands function under the direction of this office.

Direct professional assistance is provided the territorial administrators to foster resource development, provide improved health, eduction, and social assistance to the citizenry, and to help the Trust Territory and American Samoa establish efficient government administrators at all levels. Many Federal programs are coordinated for the territories by this office.

The technical staff consists of specialists in education, health and social development, economic, political, and legislative development, special programs and projects, program and budget, and Micronesian Affairs. It also serves the Office of Micronesian Status Negotiations on various technical matters as needed.

The Office of Territorial Affairs' main objective and goal for fiscal year 1978 is to provide as much influence and control over the territories, directly or indirectly, explicit or implied, in order to overcome the many problems plaguing the territories in the areas of financial responsibility and reporting, economic development, capital improvements, and future political status of the territories. Until such time as the Department is relieved of its territorial responsibilities, to provide less forceful direction to the territories would draw greater criticism from the Congressional Committees.

3. Administrative Management: Fiscal year 1977, $7,792,600; Fiscal year 1978, $8,050,000: increase of $257,400. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A) $ +12,000	--	$ 334,000	9	Assistant Secretary - Administration and Mgmt. - maintain current level of operations
(B) +11,000	--	258,000	8	ADP and Telecommunications Management - increased cost of daily operations
(C) +54,500	+2	1,043,000	42	Secretarial Operations - increased cost of operations and additional support for personnel office
(D) +121,400	--	3,543,000	132	Audit and Investigations - additional travel and annualized cost of FY 77 new personnel
(E) +21,500	--	920,000	44	Administrative Services - increased cost of current operations
(F) +12,000	--	823,000	27	Personnel Management - increased cost of daily operations
(G) +25,000	--	1,129,000	31	Administrative and Mgmt. Policy - increased cost of daily operations
+257,400	+2	8,050,000	293	

Program Synopsis

Administrative Management is charged with the Departmental policy functions of ADP, telecommunications, audit, personnel management, safety, property and security, with all the services connected with the operation of the Departmental Headquarters in the Main Interior Building and Administrative Services to Secretarial Personnel. Congressional reductions to this activity in the last two years have impelled the Assistant Secretary - Administration and Management to consolidate administrative functions. Reorganization of the activities and realignment of functions is reflected in the narrative Justification of individual offices.

A. Assistant Secretary - Management

Fiscal year 1977, $322,000; fiscal year 1978, $334,000; increase of $12,000.

Proposal

Maintain current level of support with modest increases in salaries and benefits, travel and other support costs.

Justification

The requested increase will provide the minimum necessary additional funds to cover normal within grade increases, travel to review Departmental programs and other support costs. The Assistant Secretary - Administration and Management has responsibilities which involve every bureau in the Department. New programs such as Consumer Representation and the secretarial Spanish Speaking and Federal Women's Programs require travel to meetings and support (printing and supplies for these functions).

Cost Factors

Increased salary and benefit cost	$ +10,000
Additional travel funds	+1,000
Additional printing and supplies	+1,000
Total increase	+12,000

Program Description

The Office of the Assistant Secretary - Administration and Management discharges the duties of the Secretary with respect to the Administrative and Management Policy functions of the Department. Secretarial direction is provided by this office for eight specialized staff organizations with Departmentwide scope and responsibility. The activities include internal Audit and Investigation, ADP and Telecommunication, Administrative and Management Policy, General Administrative Services, Personnel Management, Library, Aircraft Services, Job Corps, and Youth Conservation Corps and Consumer Representation. In addition, the Assistant Secretary - Administration and Management is responsible for the personnel, budget and accounting of the Secretarial Offices.

B. Office of ADP and Telecommunications Management

Fiscal year 1977, $247,000; Fiscal year 1978, $258,000; increase of $11,000.

Proposal

The additional funding is necessary to provide for increased cost of salaries, travel and other support services.

Justification

During the past year, the telecommunications management functions were merged with the previously designated Office of ADP Management, to form the Office of ADP and Telecommunications Management. This action reflects the growing interdependency of these technical disciplines as a greater volume of data is

transmitted between geographical areas. This budget reflects the salaries and expenses related to the Office Director, ADP Management staff and supporting office administration and secretarial functions.

Cost Factors

Additional costs of salaries and benefits for within - grade increases, and promotions	+ $18,000
Net reduction in other operating costs	-7,000
Total increase	+ 11,000

Program Description - The function of this office is to assure that ADP costs are incurred only for justified, well defined and managed resources. Departmental ADP costs for general management systems is projected to increase from $41 million in fiscal year 1976, to $51 million in fiscal year 1977, and to $54 million in fiscal year 1978.

This office has responsibility to review Bureau requests to expand computer capacity, and to provide technical assistance to the Bureaus in the feasibility study and the complex procurement process.

With a greater portion of ADP costs being devoted to development and maintenance of computer applications, increasing emphasis will be placed on review and justification of investments in application development. Heretofore, except for payroll systems, development of computer applications has been on an individual Bureau basis. Certain applications, especially in the administrative area, have potential to be developed and maintained to serve more than one Bureau, with a resulting savings in people and cost by avoiding duplicative programming efforts.

In addition to the functions outlined above, the ADP staff specialists will continue to be involved in promoting improved ADP planning, promulgating ADP standards, responding to policy issues from the GAO, OMB, and GSA, and in maintaining and analyzing the inventory of current ADP resources.

C. Secretarial Operations

Fiscal Year 1977, $988,500, Fiscal year 1978, $1,043,000; increase of $+54,500.

Major Program Changes

+ 2 positions and $30,000 for additional personnel support
+$24,500 for other Program Cost increases

Proposal

Increase of two positions to provide for additional classification specialists to conduct CSC required cyclic job audits and implementation of CSC Factor Evaluation System of job classification. Additional funding is requested for promotions and within grade increases and other support costs.

Justification

The implementation of two Civil Service Commission programs, Factor Evaluation and Cyclic Audits, will place an enormous burden on the limited staff of the Division of Personnel Services. There are approximately 1,900 - 2,000 persons serviced by this office, who will require job audits and rewriting of job descriptions based on new classification standards; and approximately one-fourth of these would be scheduled during FY 78 with these additional resources.

These new programs will be used to assist in identifying, preventing, and eliminating unnecessary organizational fragmentation, excessive layering, grade creep, improper design of jobs, unnecessary job titles and improper distribution of manpower resources. Increased cost of other support costs account for the balance of the requested funding.

Cost Factors

Salaries and benefits for 2 new positions	$ +30,000
Increased salaries and benefits for current staff	+17,400
Other support cost increases	+7,100

Program Description - The Division of Personnel Services administers the personnel management program for the Secretarial Offices, the Office of the Solicitor and the Office of Water Research and Technology, as well as several independent agencies and commissions. Personnel management advice is also provided to the Territorial Governments.

The personnel management responsibilities include manpower planning and utilization, personnel aspects of organization, position management and classification, work force analysis, labor relations and wage administration, recruitment and placement, employee relations and services, conduct and discipline, reduction-in-force, appeals and grievances, employee motivation and incentives and employee development, as well as preparation of all manpower information and statistics to management and the Civil Service Commission, and preparation and maintenance of official personnel documents, records and reports including maintenance of official personnel folders for all key officials in the Department of the Interior.

The Division of Fiscal Services has full budgetary, financial and accounting responsibility for the Secretarial Activities. These responsibilities include formulation, presentation, execution, and fund control of the budget for the Secretarial Offices, and payroll maintenance, payment of vouchers, and preparation of all financial and budget reports to OMB and Treasury. Also, this office provides services to the Solicitor's Office and the Office of Water Research and Technology, as well as several independent offices and commissions.

D. Office of Audit and Investigations

Fiscal year 1977, $3,421,600; Fiscal year 1978, $3,543,000; increase of $121,400.

Major Program Changes

$ +57,000 to provide for full year funding for new positions authorized by Congress in FY 1977 for Indian program audits

$ +64,400 for other increases in travel, salary and related support costs

Proposal

Funding provided in FY 1977 for 10 new positions was not sufficient to allow full year funding or adequate travel to support the audit program. The additional funds requested will annualize the cost of these positions and provide the office with adequate travel funding. The balance of the requested increase will be used to support the current staff which has remained relatively constant in numbers but has experienced an expanding workload and continued turnover in journeyman level positions.

Justification

The growth of the Departments programs subject to audit has surpassed any growth in Audit manpower. Audit activities are done onsite, nationwide, which requires a tremendous amount of travel costs. Every attempt has been made in the past to control the amount of travel cost necessary but additional funds must be provided to ensure that manpower is available to the Department to comply with legal or Congressional mandates for review of the vast Departmental programs.

Normal increase costs for within grade increases, promotions of staff and other support costs account for the balance of the requested increases.

Program Description - The Office of Audit and Investigations is responsible for conducting the Department's audit and investigation activities, and the Department's Ethics Counselor function.

Audits of Departmental entities and of the Department's contractors and grantees are performed based on priorities supportive of management objectives, requests of top Departmental officials, and requirements of laws and regulations. These audits are also undertaken based on the need to periodically (a) provide information on the effectiveness, efficiency and economy of operations; (b) determine that operations are conducted in compliance with laws, regulations, and Departmental policies; and, (c) determine that funds are properly expended and accounted for.

Auditing operations in the Department are statutorily required by the Budget and Accounting Act of 1950. OMB establishes overall Federal audit policies, and GAO establishes standards for audit coverage and performance. Among the mandatory requirements for audit are those necessary to support certain proposed, in progress, and completed contract and grant transactions. During FY 1976, about half the available manpower resources were used to meet these mandatory contract and grant audit requirements and half were used for discretionary internal audit operations of the Department.

During FY 1976 the Office of Audit and Investigations issued 71 internal and 286 contract and grant audit reports. These audits were performed for 15 different Interior bureaus and offices and 16 other Federal agencies. In addition, 5 Federal agencies performed 290 contract and grant audits for the Department on a reimbursable basis primarily under cognizance arrangements established by FMC Circular 73-6.

Our audits have made substantive contributions to the efficiency, effectiveness and economy of Departmental operations. Some major examples indicating both the significance and variety of such contributions are:

- Review of contractor and grantee claims. During FY 76 contract and grant officers reduced claims by more than $5 million based on financial adjustments recommended by audit.

- Review of several Indian employment assistance and skill training programs, funded at $35 million, disclosed declining trends in program accomplishments, deviations from eligibility and need test requirements, and inadequate monitoring of contractor performance.

- Reviews of mineral valuations identified policy issues for Secretarial action to resolve long-standing inconsistencies affecting royalty collections. The reviews also provided the base for claims against lessees.

- Preinstallation review of the new accounting system being designed for American Samoa identified design and control weaknesses for early attention and action before the system became operational.

- Review of forest management practices identified a 19,500 acre backlog in excess of normal backlog in reforestation which, if uncorrected, will significantly affect future revenues. At todays prices, this acreage in mature trees would produce $115 million in revenues.

- Review of the Outdoor Recreation program grants administration by one regional office showed that continuing eligibility was being granted to states which had an insufficient planning base to assure wise use of grant funds. Also, there was insufficient monitoring of recreation projects and some were not developed or maintained in accordance with program objectives. More than $500,000 of donated property was accepted as matching in instances where the appraisal was improper or the status of the land as a donation was highly questionable.

New Departmental programs, and increases in others already existing, continue to place substantial increased demands on our audit capacity. These include:

- Growth in revenue producing activities, particularly from energy and mineral producing leases.

- New programs or new thrusts to existing programs such as those provided by the Indian Financing Act of 1974.

- Transfer of program delivery responsibility to Indian Tribes under cost reimbursement contract arrangements. Under such contractual arrangements, audit provides preaward review of prospective contractors. Audit also provides the primary surveillance over fiscal accountability and is a principal independent source of information on contractor compliance, efficiency, economy, and effectiveness.

- Increases in the Youth Conservation Corps program from $6.5 million in FY 75 to $16 million in FY 76.

- Identification of problems in Park Service concession operations indicating the need for intensified audit surveillance.

Further demands on audit are created by the development of improved administrative and information systems, particularly automated systems. Audit is responsible for determining the adequacy of controls provided before the system is placed in operation, and for periodically assessing data quality and the usefulness and use made of reports emanating from these systems.

The adoption of the General Accounting Office "Standards for Audit of Governmental Organizations, Programs, Activities and Functions" necessitates an expanded scope of audit coverage to include, when appropriate, review of program results. This expansion is also necessary to support efficiency and impact evaluations of the Department, for which audit is a key resource.

INVESTIGATION ACTIVITIES

This office conducts investigations stemming from specific complaints of serious misconduct or operating irregularities or in other cases (as the Secretary may direct) in which a formal investigation requiring trained special agent techniques is considered appropriate. The number of investigative cases is 50 in FY 76 and is expected to be 60 in FY 78. Investigations will also be responsible for receipt, analysis and appropriate distribution of about

1,000 FBI investigative reports and identification records pertaining to the Department expected to be received during FY 68. Investigations will continue to operate with a staff of 9.

E. Office of Administrative Services

Fiscal year 1977, $898,500; Fiscal year 1978, $920,000; increase of $21,500.

Proposal

To provide for the increased cost of salaries and benefits of current personnel, overtime of clerk involved in processing mail, normal within grade increases and adjustment of other operating costs.

Jusitification

The Office of Administrative Services has adapted to handling additional workload while reducing staff. Daily operations of the Department and physical plant revolve around this office. The additional funds requested will provide for the minimum amounts necessary to continue this service.

Cost Factors

The increased funding represents additional costs in the following areas:

salaries and benefits for within grade increases, overtime for mail room personnel and promotions.....	$ +25,500
adjustments in other operating costs.....	-4,000
Total Increase.....	+21,500

Program Description

The Office of Administrative Services (formerly the Office of Management Operations) has Departmental responsibilities for administrative services, printing and publications, space management, law enforcement, security, directives, and reports management. This Office provides certain centralized administrative services for the Office of the Secretary, other Department offices and bureaus, and several independent agencies located in the Washington Metropolitan area. These services include printing, duplicating, visitor information, storage and shipping, photography, files, mail and messenger, procurement, contracting, graphics standards, and directives and reports management activities. This office develops policy standards and objectives, provides staff guidance and direction, and reviews and appraises the effectiveness of bureau procedures and activities with respect to printing and publications, space management, directives and reports management, law enforcement, and security programs.

In accomplishing these functions, this office represents the Department on interagency committees, and with the Office of Management and Budget, General Services Administration, Joint Committee on Printing, General Accounting Office, Treasury, U. S. Postal Service, and other Federal agencies on matters pertaining to space, security, law enforcement, printing and publications, transportation, postal matters, directives, and reports management.

F. Office of Personnel Management

Fiscal year 1977, $811,000; Fiscal year 1978, $823,000; increase of $12,000.

Proposal

The additional funds requested will provide for normal within grade increases, promotions and adjustment and other support costs associated with maintaining current operations.

Justification

The Office of Personnel Management has primary staff responsibility for planning, developing and implementing policies, programs, standards, and systems for the effective utilization, development, and management of human resources to accomplish the overall missions of the Department; for evaluating the effectiveness of the Department's personnel management program; and for the analysis of position structures.

Cost Factors

Additional cost of salary and benefits for current staff.....	$ +20,300
Adjustments in other support costs.....	-8,300
Total Increase.....	$ +12,000

Program Description - The Office of Personnel Management gives guidance, assistance and overall review to the constituent bureaus of the Department with regard to their personnel management programs including position management and classification, employee and organization performance, labor-management relations, employee development, recruitment and placement, employee relations, employee health, medical and all other personnel programs.

Major initiatives undertaken in position management and classification, labor management relations, and employee placement will continue through fiscal year 1978. The position management and classification program is directed at controlling salary costs and grade level escalation through sound allocation of positions, efficient position design, and elimination of overlapping and unnecessary positions. Specific analyses and audits are conducted of major occupations and deputy, special assistant and assistant-to positions at all levels. Departmental grading criteria are being issued for critical occupations. Grade level trends are being closely monitored and reviews are being conducted where indicated.

During the past year, the office initiated a labor-management relations cost analysis program for the 210 bargaining units representing 25,000 Interior employees, coordinated a regulatory review of Interior policies in conjunction with the revisions of the Labor-Management Relations Executive Order and initiated productivity bargaining for Interior's 175 labor-management contracts. The objectives for the next fiscal year are to maintain or increase productivity through the bargaining process, to analyze and issue additional guidance material including specific contract language which will increase productivity and reduce costs, and to establish a cost base for each Interior negotiated agreement. There were 75 third party matters in FY 76 and this activity is expected to increase into FY 1978. The Department must insure through policy guidance and coordination of representation that actions at one location do not adversely affect other bureaus or the Department as a whole.

83-561 O - 77 - 93

In the employment program area, emphasis is continuing on improving Departmental vacancy information and providing placement assistance for displaced employees and non-Indian employees of the Bureau of Indian Affairs. Major improvements in the ranking and selection processes are being developed on a Departmentwide basis.

Proposed Uniform Guidelines on Employee Selection Procedures of the Equal Employment Opportunity Coordinating Council will require major revisions to personnel management operations. The job analysis and statistical validation provisions of the guidelines will require massive program restructuring and training of the personnel community as well as infusion of expert staff training in personnel psychology research.

C. Office of Administrative and Management Policy

Fiscal year 1977, $1,104,000; Fiscal year 1978, $1,129,000; increase of $25,000.

Proposal

The additional funding is necessary to continue daily operations. The increased funds are for salaries and related support for current personnel.

Justification

The Office of Administrative and Management Policy results from a recent reorganization by the Assistant Secretary - Administration and Management to streamline the organizational elements and change titles to reflect functional areas as descriptively as possible. This office was formerly known as the Office of Management Services.

The principal responsibilities of this office include:

(1) Acting as the principal advisor to the Secretariat on all policy and operational matters regarding the functions within its purview.

(2) Formulating and promulgating all Departmentwide policies, procedures, standards and guidelines affecting the administrative/management functions within its purview.

(3) Serving as the principal focal point and liaison office of the Department in dealing with all outside agencies which establish and coordinate Governmentwide policies and procedures affecting the administrative/management functions within its purview. These agencies include: OMB, GSA, SBA, Labor, Justice, Commerce, FEA and GAO.

(4) Representing the Department and/or coordinating bureau participation on all interagency task forces and working groups, as well as steering and advisory committees, working on the development and modification of Governmentwide administrative/management policies.

Cost Factors

Additional funds necessary for:

salaries and benefits.....	$ +27,500
adjusted cost of travel and related support.....	-2,500
Total Increase.....	+25,000

Program Description - The scope of the Office of Administrative and Management Policy includes the following functional areas:

- Procurement and grants
- Property management (real and personal)
- Employee/public visitor safety/environmental health
- Paperwork management
- Energy conservation/management
- Organizational planning
- Management and financial systems procedures and development
- Intergovernmental Cooperation Act of 1968
- Emergency preparedness
- Audio-visual
- Freedom of Information Act appeals
- Coordination of overall Departmentwide Management Initiatives
- Privacy Act

Through strong central Departmentwide policy guidance developed in coordination with the bureaus, major efforts will be initiated and implemented to assist in reducing administrative and management costs and streamline Departmentwide program support activities. As examples of the types of major initiatives planned for FY 1978 the following goals will be emphasized:

- More efficient management of the Department's 25,000 motor vehicles and 10,000 pieces of heavy motorized equipment so that the bureaus are able to meet the increased demands for motor vehicles/equipment services due to expanded energy and natural resources development programs, while minimizing increases in budget for these services.

- More efficient management of the Department's approximately 12,000 Government-furnished quarters.

- Increase effectiveness of accident reduction and prevention programs to control the approximate $6-10,000,000 annual costs incurred by the Department for employee compensation and repair of damage to Department-owned property.

- Reduce Departmentwide records holdings, including both those stored in office space as well as in Government-owned storage facilities, reduce the number of forms and reports, and control the rapidly increasing costs of mail; establish effective systems of vital records for emergency operations; reduce the cost of Departmental paperwork operations through more effective use of technology, such as micrographics and word processing systems.

- Improve and expedite the review and approval of the Department's accounting systems by GAO.

- Guide and develop the Department's field organization design and implementation for improved intra-Departmental program management.

- Develop and implement more effective policies and programs to reduce energy consumption.

- Develop strengthened programs to train and improve the Departmentwide procurement workforce to accommodate the increased demand and sophistication in procurement activities due to expanded programs and increased emphasis on contracting out.

4. General Services

Fiscal year 1977, $2,377,000; Fiscal year 1978, $2,929,000; increase of $552,000.

Proposal

The increased funding requested for this activity is necessary to cover the additional costs incurred by the Office of the Secretary as an agency of the Federal Government. The requested increase in the areas of space, FTS, postage and employee compensation (approximately $513,938) is uncontrollable and not the result of any program expansion of the Secretarial Offices. The balance of the increase represents the Office of the Secretary's additional share of common services payable to the Working Capital Fund, and other minor increases.

Justification

The increase in funds requested for space is $119,000, payable to GSA, and is the result of a 6% increase in the base cost by GSA in FY 1978. The requested increase of $85,000 for payment to GSA represents the increased cost of the Office of the Secretary's share of the Departmental FTS bill. The Office of Administrative Services is currently working with the United States Post Office to better determine and evaluate the postage costs of the Office of the Secretary. The rise in postage costs, the increased number of public requests for information, the additional mailings of Departmental publications and increased sampling data by the Post Office, all contribute to the large request for additional funding of $268,500. The employee compensation payment for the Office of the Secretary will increase by $41,438 in FY 1978. This again is a cost over which the Department has no control.

The balance of the requested increased funding is due to additional printing of Departmental materials, $+9,800, increased share of Secretarial expenses of the Working Capital Fund, $+20,000 and other general support cost, $+8,262.

Cost Factors

		Base FY 77	FY 78 Request	Increase
12.0	Personnel Benefits.....	$ 34,000	$ 75,438	$ +41,438
21.0	Travel (Congressional Review of estimates).....	6,000	6,000	--
23.0	Rent, Communications & Utilities	(2,207,000)	(2,679,500)	(+472,500)
23.1	Rental of space.....	1,937,000	2,056,000	+119,000
23.2	Other Communications costs			
	Postage.....	195,000	463,500	+268,500
	FTS.....	75,000	160,000	+85,000
24.0	Printing.....	20,000	29,800	+9,800
25.0	Other services.....	96,000	124,262	+28,262
26.0	Supplies.....	7,000	7,000	—
31.0	Equipment.....	7,000	7,000	—
	Total.....	2,377,000	2,929,000	+552,000

Program Description - The activity "General Services" covers general expense items which are not practical to distribute to the various offices in the Secretariat. These items include but are not limited to:

Space costs payable to GSA
General printing costs
Communications, such as: FTS, telegraph, and postage
Congressional travel for review of estimate in the field
Share of health service costs, stores and shipping costs, and other miscellaneous costs prorated over the Department (Working Capital Fund costs)
Operation of motor vehicles used by the Secretary and others in the Office of the Secretary
Some general purchases of equipment
Other miscellaneous expenses of a general nature
Employees compensation payments

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

ESTIMATED OBLIGATIONS BY SUBACTIVITY AND OBJECT CLASS, FISCAL YEARS 1977 AND 1978

Activity/Subactivity	Fiscal Year	Personnel Compensation	Personnel Benefits	Travel	Transportation of Things	Rent Comm. & Utilities	Printing & Reprod.	Other Services	Supplies and Materials	Equipment	Total	Positions
1. Departmental Direction:												
(a) Secretary's Immed. Ofc...	1977	524,800	47,400	31,000	1,000	12,000	19,600	17,600	5,600	6,000	665,000	16
	1978	548,700	47,300	37,000	1,000	13,000	21,000	18,000	5,000	6,000	697,000	16
(b) Executive Secretariat....	1977	117,300	10,500	--	--	2,000	1,000	1,000	1,000	1,000	133,800	8
	1978	123,300	11,500	--	--	4,000	1,000	1,000	1,000	1,000	143,000	8
(c) Under Secretary.....	1977	283,700	28,300	23,000	--	10,000	7,000	20,000	6,000	8,000	386,000	11
	1978	282,200	27,400	20,000	--	8,000	7,000	15,000	5,000	6,000	370,600	9
(d) Field Coordination.....	1977	569,900	49,900	84,000	7,000	40,000	13,500	52,000	10,800	10,900	838,000	22
	1978	613,600	60,500	92,700	7,300	45,000	15,000	60,000	12,000	13,000	919,100	22
(e) Office of Public Affairs.	1977	357,500	31,700	5,000	--	3,000	9,000	5,800	4,000	2,000	418,000	14
	1978	366,708	33,600	5,000	--	3,000	9,000	6,000	4,000	2,000	429,300	14
(f) Equal Opportunity.....	1977	2,066,500	186,500	235,000	25,000	84,000	20,000	88,500	32,000	28,700	2,766,200	95
	1978	2,069,200	196,000	243,000	23,000	76,000	22,000	80,000	31,000	29,000	2,769,200	88
(g) A/S - Congressional and Legislative Affairs.....	1977	686,100	66,900	17,000	--	13,000	20,000	8,000	7,500	3,500	822,000	36
	1978	734,400	70,000	13,000	--	20,000	25,000	15,000	8,500	4,500	890,400	36
(h) A/S - Program Development and Budget.....	1977	2,207,700	185,700	65,400	3,200	29,400	21,000	66,000	21,000	36,000	2,635,400	80
	1978	2,283,400	216,000	79,500	3,000	37,500	25,000	631,000	26,000	40,000	3,343,400	80
Subtotal - Dept'l Direction.....	1977	6,813,500	606,900	460,400	36,200	193,400	111,100	258,900	87,900	96,100	8,864,400	282
	1978	7,021,700	662,300	490,200	36,300	206,500	125,000	826,000	92,500	101,500	9,562,000	273
2. Program Direction and Coordination:												
(a) A/S - Energy and Minerals.....	1977	581,200	55,500	31,000	--	3,000	7,400	14,600	6,200	6,600	705,500	20
	1978	530,500	51,500	28,000	--	3,000	8,000	10,000	5,000	5,000	641,000	17
(b) A/S - Land and Water Resources.....	1977	558,500	45,400	22,900	--	2,100	4,000	5,700	3,000	2,500	644,100	21
	1978	569,300	55,700	27,000	--	4,000	6,000	10,000	4,000	4,000	680,000	21
(c) A/S - Fish and Wildlife and Parks.....	1977	490,300	44,100	28,400	--	9,800	2,900	15,300	5,500	5,400	601,700	20
	1978	533,000	52,000	33,000	--	12,000	5,000	17,000	7,000	6,000	665,000	20

SAE-60

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

ESTIMATED OBLIGATIONS BY SUBACTIVITY AND OBJECT CLASS, FISCAL YEARS 1977 AND 1978

Activity/Subactivity	Fiscal Year	Personnel Compensation	Personnel Benefits	Travel	Transportation of Things	Rent Comm. & Utilities	Printing & Reprod.	Other Services	Supplies and Materials	Equipment	Total	Positions
(d) Territorial Affairs.....	1977	473,700	39,200	26,600	--	17,600	4,200	13,800	4,800	2,800	584,700	17
	1978	486,000	47,000	49,000	--	20,000	7,000	15,000	6,000	4,000	634,000	17
Subtotal - Program Direction & Coord...	1977	2,105,700	184,200	108,900	--	32,500	18,500	49,400	19,500	17,300	2,536,000	78
	1978	2,118,800	206,200	137,000	--	39,000	26,000	52,000	22,000	19,000	2,620,000	75
3. Administrative Management:												
(a) A/S - Administration and Management.....	1977	261,900	24,600	12,000	--	6,000	2,000	9,000	2,500	4,000	322,000	9
	1978	270,500	26,000	13,000	--	6,000	2,500	9,000	3,000	4,000	334,000	9
(b) ADP and Telecommunications Management.....	1977	188,200	17,800	8,000	2,000	5,000	2,000	19,300	3,000	1,500	247,000	8
	1978	205,000	19,000	10,000	--	5,000	2,000	12,000	3,000	2,000	258,000	8
(c) Secretarial Operations...	1977	770,400	67,200	2,000	--	10,900	11,000	106,300	10,700	10,000	988,500	40
	1978	810,000	75,000	2,000	--	12,000	12,000	110,000	12,000	10,000	1,043,000	42
(d) Audit & Investigations...	1977	2,638,500	237,500	305,000	11,000	33,000	20,000	138,600	18,000	20,000	3,421,600	132
	1978	2,695,600	242,100	365,800	15,700	30,000	23,100	134,300	18,500	17,900	3,543,000	132
(e) Administrative Services..	1977	740,500	70,000	18,000	2,000	10,000	8,000	30,000	10,000	10,000	898,500	44
	1978	762,000	74,000	15,000	1,000	12,000	8,000	30,000	10,000	8,000	920,000	44
(f) Personnel Management.....	1977	690,200	68,000	17,000	--	2,800	8,000	12,000	6,800	6,200	811,000	27
	1978	708,500	70,000	11,000	--	3,000	8,500	10,000	7,000	5,000	823,000	27
(g) Administration and Management Policy.....	1977	896,900	80,500	26,000	--	17,600	20,000	36,700	10,300	16,000	1,104,000	31
	1978	915,900	89,000	30,000	--	18,000	21,500	30,000	12,000	12,600	1,129,000	31
Subtotal - Adm. Mgmt.	1977	6,186,600	565,600	388,000	15,000	85,300	71,000	352,100	61,300	67,700	7,792,600	291
	1978	6,367,500	595,100	446,800	16,700	86,000	77,600	335,300	65,500	59,500	8,050,000	293
4. General Services.....	1977	--	34,000	6,000	--	2,207,000	20,000	96,000	7,000	7,000	2,377,000	--
	1978	--	73,438	6,000	--	2,679,300	29,800	124,262	7,000	7,000	2,929,000	--
TOTAL APPROPRIATION, SALARIES AND EXPENSES....	1977	15,105,800	1,390,700	963,300	51,200	2,318,200	220,600	756,400	175,700	188,100	21,370,000	651
	1978	15,508,000	1,539,038	1,080,000	53,000	3,011,000	238,400	1,117,362	187,000	187,000	23,161,000	641

SAS-41

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

For necessary expenses of the Office of the Secretary of the Interior, including not to exceed $2,000 for official reception and representation expenses [$20,620,000.]/\ $23,161,000

(Department of the Interior and Related Agencies Appropriation Act, 1977.)

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES
Program and Financing (in thousands of dollars)

	1976 actual	19TQ actual	1977 estimate	1978 estimate
Program by activities:				
1. Departmental direction	$ 7,966	$ 1,926	$ 8,664	$ 9,562
2. Program direction and coordination 1/	2,221	579	2,536	2,620
3. Administrative management	6,912	1,692	7,793	8,050
4. General services	2,301	557	2,377	2,929
Total, direct program	19,400	4,754	21,370	23,161
Reimbursable program	2,137	686	1,645	1,658
Total program costs, funded	21,537	5,440	23,015	24,819
Change in selected resources (undelivered orders)	-445	-195	--	--
10.00 Total obligations	21,092	5,245	23,015	24,819
Financing:				
Offsetting collections from:				
11.00 Federal funds	-2,137	-686	-1,645	-1,658
21.00 Unobligated balance available, start of period	--	-301	--	--
24.00 Unobligated balance available, end of period	301	--	--	--
25.00 Unobligated balance lapsing	--	118	--	--
Budget authority	19,256	4,376	21,370	23,161
Budget authority:				
40.00 Appropriation	19,256	4,376	20,620	23,161
44.20 Supplemental now requested for civilian pay raises	--	--	750	--
Relation of obligations to outlays:				
71.00 Obligations incurred, net	18,955	4,559	21,370	23,161
72.00 Obligated balance, start of year	492	1,376	791	1,541
74.00 Obligated balance, end of year	-1,376	-791	-1,541	-2,190
77.00 Adjustments in expired accounts	-126	-86	--	--
90.00 Outlays, excluding pay raise supplemental	17,945	5,058	19,900	22,482
91.20 Outlays, from civilian pay raise supplemental	--	--	720	30

1/ Excludes $464,000 in 1978 for Ocean Mining Administration transferred to Departmental Operations. Comparable accounts for 1976 ($95,400), TQ ($23,850), 1977 ($100,000) are included above.

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

Object Classification (in thousands of dollars)

	1976 Actual	19TQ Actual	1977 Estimate	1978 Estimate
Direct obligations				
Personnel compensation:				
11.1 Permanent positions	12,669	3,082	14,381	14,733
11.3 Positions other than permanent	521	137	600	650
11.5 Other personnel compensation	158	35	125	125
Total personnel compensation	13,348	3,254	15,106	15,508
Personnel benefits:				
12.1 Civilian	1,286	319	1,391	1,539
13.0 Benefits for former personnel	2	--	--	--
21.0 Travel and transportation of persons	1,023	284	963	1,080
22.0 Transportation of things	10	8	51	53
23.1 Standard level user charge	1,650	250	1,937	2,056
23.2 Other rent, comm., util.	602	136	581	955
24.0 Printing and reproduction	199	143	221	258
25.0 Other services	609	140	756	1,338
26.0 Supplies and materials	148	21	176	187
31.0 Equipment	78	19	188	187
Total direct obligations	18,955	4,559	21,370	23,161
Reimbursable programs				
Personnel compensation:				
11.1 Permanent positions	1,603	550	1,140	1,150
Personnel benefits:				
12.1 Civilian	157	49	115	120
21.0 Travel and transportation of persons	319	51	350	350
24.0 Printing and reproduction	--	17	--	--
25.0 Other services	58	15	40	38
26.0 Supplies and materials	--	4	--	--
Total reimbursable oblig.	2,137	686	1,645	1,658
Total obligations	21,092	5,245	23,015	24,819

Personnel Summary				
Direct:				
Total number of permanent positions	660	--	651	641
Full-time equivalent of other positions	41	--	45	50
Average paid employment	686	--	676	673
Reimbursable Program:				
Total number of permanent positions	54	--	38	38
Average paid employment	49	--	35	35
Average GS grade	10.14	--	10.11	10.11
Average GS salary	$20,595	--	$21,038	$21,705
Average salary of ungraded positions	$12,930	--	$14,100	$14,100

OFFICE OF THE SECRETARY
CONSOLIDATED SCHEDULE OF PERMANENT POSITIONS PAID
FROM FUNDS AVAILABLE TO THE OFFICE OF THE SECRETARY

DETAIL OF PERMANENT POSITIONS

	1976 actual	1977 estimate	1978 estimate
Executive Level I	1	1	1
Executive Level III	1	1	1
Executive Level IV	6	6	6
Executive Level V	1	1	1
Subtotal	9	9	9
GS-18	5	5	5
GS-17	17	17	17
GS-16	44	44	44
GS-15	139	138	140
GS-14	133	128	128
GS-13	120	119	119
GS-12	116	114	114
GS-11	130	127	127
GS-10	12	12	12
GS- 9	142	150	145
GS- 8	51	51	52
GS- 7	138	140	142
GS- 6	95	95	95
GS- 5	127	126	127
GS- 4	57	55	55
GS- 3	21	21	22
GS- 2	2	2	2
GS- 1	1	1	1
Subtotal	1,350	1,345	1,347
Ungraded	60	47	47
Total permanent positions	1,419	1,401	1,403
Unfilled positions, June 30	-112	-82	-82
Total permanent employment, end of year	1,307	1,319	1,321

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
DEPARTMENTAL OPERATIONS

Highlight Statement

The fiscal year 1978 appropriation request for the account "Departmental Operations," Office of the Secretary, is $13,464,000, a net increase of $188,000 over the amount expected to be available during fiscal year 1977.

Maintain Current Level of Operations

An increase of $1,118,000 is needed to maintain the current level of support for existing operations. Included in this amount is $219,000 for the increased cost of space and facilities provided by GSA, postage, federal telecommunications service and employee compensation payments. $340,000 will be used to update the Office of Library and Information Services. The remaining $559,000 is requested for personnel services and other operational costs required to support Departmentwide programs.

Program Decreases

A non-recurring decrease of $1,000,000 results from the contract study for the Petroleum Reserve Number 4 (PET 4) in FY 1977 Office of Minerals Policy Research and Analysis, and reduced aircraft procurement of $394,000 for the Office of Aircraft Services.

Program Increases

Ocean Mining Administration - $464,000 and 12 positions to effect new initiatives taken by the Department in deep seabed minerals development.

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
DEPARTMENTAL OPERATIONS

Appropriation, 1976	$12,153,000	
Pay Act Supplemental	213,000	
Total Available, 1976		$12,366,000
Appropriation, 1977	12,926,000	
Pay Act Supplemental	350,000	
Total Available, 1977		13,276,000

Summary of Increases and Decreases, 1978

Increases:	Base 1977	Increase 1978	
Maintain current level of operations:			
Hearings and Appeals	$ 5,316,000	$ 68,000	
Library and Information Services	1,884,000	340,000	
Minerals Policy Research & Analysis	1,233,000	255,000	
Aircraft Services	1,202,000	142,000	
Emergency Preparedness	461,000	69,000	
Outer Continental Shelf	650,000	27,000	
General Services	1,100,000	217,000	
Program increases:			
Ocean Mining Administration	--	464,000	
Aircraft Services - Aircraft Procurement	--	36,000	
Total Increase			1,618,000
Decreases:			
Minerals Policy Research & Analysis	1,000,000	-1,000,000	
Aircraft Services - Aircraft Procurement	430,000	-430,000	
Total Decrease			-1,430,000
Net increase, 1978			188,000
Budget estimate, 1978			13,464,000

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
DEPARTMENTAL OPERATIONS

Analysis by Activities

Activity	FY 1976 Amount Available	(Direct Appropriation) Fiscal Year 1977 Total Appropriation	Pay Cost Supplemental	Amount Available
1. Office of Hearings and Appeals.....	$5,222,965	$5,141,000	175,000	$5,316,000
2. Office of Library and Information Services.....	2,066,680	1,814,000	70,000	1,884,000
3. Johnny Horizon Program Office.....	300,911	---	---	---
4. Office of Minerals Policy Research and Analysis.....	887,081	2,198,000	35,000	2,233,000
5. Office of Aircraft Services.....	2,264,566	1,597,000	35,000	1,632,000
6. Emergency Preparedness.....	297,253	440,000	21,000	461,000
7. Outer Continental Shelf Program.....	246,667	636,000	14,000	650,000
8. Ocean Mining Administration.....	---	---	---	---
9. General Services.....	---	1,100,000 a/	---	1,100,000
Unobligated balance lapsing.....	1,079,877	---	---	---
(Available in Transition Quarter) Total.....	12,366,000	12,926,000	350,000	13,276,000

a/ Contains costs for space, FTS, postage and Employee compensation which has been withdrawn from the individual activities; this activity is comparable to the budget activity General Services in Salaries and Expenses.

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
DEPARTMENTAL OPERATIONS

Analysis by Activities

Activity	FY 1976 Amount Available (Direct Appropriations)	FY 1977 Amount Available (Direct Appropriations)	FY 1978 Estimate (Direct Appropriations)	Increase (+) or Decrease (-) 1978 Compared with 1977	Page Reference
1. Office of Hearings and Appeals	$ 5,222,965	$ 5,316,000	$ 5,384,000	$ +68,000	DO- 8
2. Office of Library and Information Services	2,066,680	1,884,000	2,224,000	+340,000	DO-10
3. Johnny Horizon Program Office	300,911	--	--	--	
4. Office of Minerals Policy Research and Analysis	887,081	2,233,000	1,488,000	-745,000	DO-12
5. Office of Aircraft Services	2,264,566	1,632,000	1,380,000	-252,000	DO-13
6. Emergency Preparedness	297,253	461,000	530,000	+69,000	DO-15
7. Outer Continental Shelf Program	246,667	650,000	677,000	+27,000	DO-18
8. Ocean Mining Administration a/	--	--	464,000	+464,000	DO-19
9. General Services b/	--	1,100,000	1,317,000	+217,000	DO-20
Unobligated balance lapsing (Available in Transition Quarter)	1,079,877	--	--	--	
Total	12,366,000	13,276,000	13,464,000	+188,000	

a/ Carried in S&E Appropriation in FY 1977 at $100,000
b/ Contains costs for space, FTS, postage and employees compensation which has been withdrawn from the individual activities

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
DEPARTMENTAL OPERATIONS

Analysis of Subactivities

Activity/Subactivity	1976 Amount Available	1977 Amount Available	Auth. Perm. Pos.	1978 Estimate	Auth. Perm. Pos.	Increase or Decrease (-) 1978 compared with 1977 Dollars	Pos.
Office of Hearings and Appeals.....	$ 5,458,300	$ 5,316,000	189	$ 5,384,000	189	$ 68,000	--
Library and Information Services....	2,141,100	1,884,000	57	2,224,000	57	340,000	--
Johnny Horizon Program.....	305,600	--	--	--	--	--	--
Minerals Policy Research and Analysis.....	1,483,800	2,233,000	27	1,488,000	27	-745,000	--
Aircraft Services.....	2,282,000	1,632,000	26	1,380,000	26	-252,000	--
Emergency Preparedness.....	287,900	461,000	15	530,000	15	69,000	--
Outer Continental Shelf Program.....	407,300	650,000	13	677,000	13	27,000	--
Ocean Mining Administration.....	--	--	--	464,000	12	464,000	+12
General Services.....	--	1,100,000	--	1,317,000	--	217,000	--
TOTAL.....	12,366,000	13,276,000	327	13,464,000	339	188,000	12

83-561 O - 77 - 94

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
DEPARTMENTAL OPERATIONS

Analysis of Increases

	F.Y. 1977 Ant. Approp. Positions	F.Y. 1977 Ant. Approp. Funds	F.Y. 1978 Increases: Maintain Current Level of Operations	Program Increases: New Pos. Related Funds	Total Increases: Positions	Total Increases: Funds	FY 1978 Appropriation Request: Positions	FY 1978 Appropriation Request: Funds
1. Office of Hearings and Appeals	189	$ 5,316,000	68,000	—	--	$ 68,000	189	$ 5,384,000
2. Office of Library and Information Services	57	1,884,000	340,000	—	--	340,000	57	2,224,000
4. Office of Minerals Policy Research & Analysis	27	2,233,000	255,000	-1,000,000	—	-745,000	27	1,488,000
5. Office of Aircraft Services	26	1,632,000	142,000	-394,000	--	-252,000	26	1,380,000
6. Emergency Preparedness	15	461,000	69,000	--	—	69,000	15	530,000
7. Outer Continental Shelf Program	13	650,000	27,000	--	—	27,000	13	677,000
8. Ocean Mining Administration 1/	--	--	—	464,000	12	464,000	12	464,000
9. General Services	--	1,100,000	217,000	--	--	217,000	--	1,317,000
Total	327	13,276,000	1,118,000	-930,000	12	188,000	339	13,464,000

1/ Includes 3 positions and $100,000 previously funded under Salaries and Expenses (Assistant Secretary Energy and Minerals).

Departmental Operations: Fiscal year 1977, $13,276,000, Fiscal year 1978, $13,464,000; increase of $188,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $ +68,000	--	$ 5,384,000	189	Office of Hearings and Appeals - increased cost of daily operations
(2) +340,000	--	2,224,000	57	Office of Library and Information Services - increased cost of daily operations and improvements in Library facility
(4) -745,000	--	1,488,000	27	Office of Minerals Policy Research and Analysis - completion of Pet 4 study, additional contract funds and daily operations
(5) -252,000	--	1,380,000	26	Office of Aircraft Services - aircraft procurement decrease and increased cost of operations
(6) +69,000	--	530,000	15	Emergency Preparedness full funding of FY 77 new positions and increased cost of operations
(7) +27,000	--	677,000	13	Outer Continental Shelf Program Office - increased cost of travel for members of advisory committee and daily operations
(8) +464,000	+12	464,000	12	Ocean Mining Administration - expansion of departmental initiative in Deep Seabed and Ocean Resources
(9) +217,000	--	1,317,000	--	General Services - increased cost of space, FTS, and postage
+188,000	+12	13,464,000	339	

Program Synopsis

The Departmental Operations Appropriations contains programs and activities which focus on Departmentwide issues. Activities in Departmental Operations, while reporting to the Office of the Secretary, serve to consolidate functions which are unique and otherwise not available in the Department.

Major issues in the 1978 Budget aside from costs associated with normal or uncontrolled increases in operating costs are:

- funding for the Office of Library and Information Services to begin modernizing and updating services and facility
- reductions in Minerals Policy Research and Development (Pet 4 Study) and Office of Aircraft Services (Aircraft Procurement) due to one time program needs
- expansion of the Ocean Mining Administration to prepare for appropriate Federal management of Deep Seabed minerals development. (This function was previously funded at a minimal staff level in the Assistant Secretary Energy and Minerals Office - Salaries and Expenses Appropriation)
- establishment of a General Services activity in the Departmental Operations Appropriation, a similar activity to the one in Salaries and Expenses. The base level for this activity was derived from the other activities, and will provide a simplified process for billing and cost estimating such expenses as space, postage, FTS, and employee compensation payments.

1. Office of Hearings and Appeals

Fiscal year 1977, $5,316,000; Fiscal year 1978, $5,384,000; increase of $68,000.

Proposal

The increased funding will provide for the additional costs of daily operations, such as reduction in vacant positions, within grade salary increases, printing, supplies and other services.

Justification

The following program areas comprise Office of Hearings and Appeals activity:

Contract Appeals - The present caseload of approximately 50 reflects the large number of cases disposed of in 1976. A significant number of cases on the Board's docket involve appeals in excess of one million dollars each and entail voluminous records and lengthy hearings.

Indian Matters - The Office has increased its responsibilities as it affects the Indian people to include administrative appeals from decisions of the Bureau of Indian Affairs. The transfer of these functions completes the Secretary's plan to include all quasi-judicial activities in this single office.

The Indian Probate Administrative Law Judges, operating out of seven different cities, continue their excellent record of local services to the Indians in settling probate matters.

Mine Health and Safety - In its first few years, the Coal Mine Health and Safety Act produced a caseload which grew each year at an increasing rate. To meet the rising workload, a Secretarial objective was established to eliminate the backlog of Coal Mine Health and Safety violation assessment and civil penalty cases. Mining Enforcement and Safety Administration, Office of the Solicitor, and Office of Hearings and Appeals streamlined procedures and office requirements to expedite handling of the cases. New Coal Mine Health and Safety Part 100 regulations were issued to enable the settlement of most cases, leaving only the more difficult ones for hearing. As a result, in FY 1974, 3,148 cases were decided. In FY 1975, 9,106 cases and in 1976, 5,444 cases were decided. For the first time in several years, the backlog of coal mine health and safety penalty cases is below 3,000. At the close of FY 1974, the backlog was 10,642, at the close of FY 1975 it was 5,289 and at the end of FY 1976 it is 1,574. The effect of new procedures has resulted in the substantial accomplishment of the Secretarial objective. It should be noted that the civil penalty cases now being filed are more difficult to settle than those filed prior to the new Part 100 regulations. Consequently, a greater number of those filed will require full evidentiary hearings.

Aside from civil penalty cases, the Office of Hearings and Appeals receives about 65 cases a month under other provisions of the Federal Coal Mine Health and Safety Act.

The increased hearings workload has resulted in additional appeals to the Interior Board of Mine Operations Appeals. In FY 1976, 110 appeals were filed with the Interior Board of Mine Operations Appeals and 92 cases were decided. The Board is disposing of cases in a reasonable length of time.

Public Lands - During the some six years the Office of Hearings and Appeals has been in existence, the large inherited backlog has been completed and the backlog of appeals to the Board of Land Appeals has been reduced. Similarly, the backlog of those public land cases which required hearings has been reduced. However, the Board has received hundreds of Native allotment appeals. New developments in public land policies, e.g., cost recovery and higher rentals in right-of-way cases (established by appraisals) have given rise to burgeoning requirements on the Board. We anticipate that increased demands for hydrocarbons and other minerals and geothermal resources may intensify activity in those areas, thus generating a commensurate appellate caseload.

Due to the law of August 4, 1976, P.L. 94-377, governing coal leasing and the new regulations and policies governing preference right applications, it is anticipated that a considerable caseload will develop in coal appeals. Coal leasing has been essentially suspended since February 1973, giving rise to a pent-up demand for action. In addition, there is a large number of applications for extensions of coal prospecting permit applications and cases involving readjustment of terms. The latter will pose difficult issues and involve substantial moneys. Therefore they are likely to be litigated on the appellate level with vigor.

Alaska Native Claims - The Board consists of a chairman and three board members, three attorney-advisers and four clerical support. The caseload for this Board is developing. A large number of cases involving specific land selections by Native villages and Regional Corporations is anticipated in FY 1978.

Other Programs The Office of Hearings and Appeals is being called upon with increasing frequency to hold public hearings related to such environmentally significant matters as offshore oil and gas drilling.

Cost Factors

The increased cost of doing business is reflected in the modest request for additional funding for this office. Through continued review of priorities, some expenses of past years will be reduced, but the additional cost of rentals of equipment, printing and other services, while minimum, cannot be absorbed. The largest increases will be in salaries and benefits due to promotions, within grade increases, and attempts to reduce the time positions remain vacant thus utilizing more man years of effort.

Increased salary and related costs.....	$ +60,500
Increased rental of equipment, printing and court reporting services.....	+19,600
Adjusted costs of supplies, periodicals, journals and equipment	-12,100
Total increases.....	$ 68,000

Program Description - The Office of Hearings and Appeals provides a secretarial office which consolidates the quasi-judicial responsibilities of the Department of the Interior. Administrative Law Judges and formal boards of appeals render decisions in cases pertaining to: (a) contract disputes; (b) Indian appeals; (c) public and acquired lands and their resources; (d) submerged offshore lands of the outer continental shelf; (e) mine health and safety; (f) personnel grievances; (g) environmental impact; (h) enforcement of the importation and transportation of rare and endangered species; (i) environmental quality; (j) uniform relocation assistance and real property appeals; and (k) Alaska Native claims appeals. The Director of the Office of Hearings and Appeals may assign Administrative Law Judges for the purpose of holding rulemaking hearings and he may also assign Administrative Law Judges or establish ad hoc boards of appeal to meet requirements of disputes not falling under one of the previously listed categories. Decisions of the boards are final for the Department.

2. Office of Library and Information Services

Fiscal year 1977, $1,884,000; Fiscal year 1978, $2,224,000; increase of $340,000.

Proposal.

The increased funding will provide for the additional costs of daily operation, such as reduction in key vacant positions, within grade salary increases, and other costs of various Library programs. Additional funds will be used to provide computer time to utilize some of the information programs currently available for use and to establish additional data base file information. In FY 1976 this office began to identify operational, safety and storage deficiencies in the Library program. Funds requested in this budget will begin to implement changes identified by this study to upgrade and modernize the library facility.

Justification

The binding program has fallen behind the last few years because inflation has diminished the effectiveness of funds allocated to this program. An increase of $32,000 is requested to bind approximately 5,000 additional volumes per year, some of which are very rare early materials on Indian land matters.

Telecommunications, and telefacsimile costs continue to rise at a rapid rate due to increased workload and price increases, even though cooperative and shared use of data lines with other agencies through FEDLINK assists in keeping our share of total costs low. An increase of $41,000 is requested for these and related matters such as terminal leases and maintenance.

The automation of the ordering and cataloging functions of the Library has reduced the processing time for the ordering of materials from six weeks down to one week and cataloging from three months to three weeks. Reports generated from the automated acquisitions system give Library and Fiscal Services staff complete and accurate information on all Library orders that are being processed on a weekly basis with only a few seconds of look-up time. Cataloging done in the automated cooperative cataloging system enables the Library to do 55% to 60% of its cataloging within 10 minutes per title. This is an improvement of over 35 minutes per title. Catalog card production previously took 15 minutes per title and has now been eliminated entirely.

The on-line computerized services of the Information Services Branch have provided comprehensive, timely and tailored search products for Department of the Interior researchers and vastly increased the productivity of the Branch without any increase in staff. Access to over sixty different data bases from eight different systems provides comprehensive coverage of the literature and the valuable multi-disciplinary approach so important to research within the Department. Each search, carefully profiled and tailored to achieve maximum recall and precision, is processed on-line and citations retrieved on-line or requested in an offline mode are dispatched immediately to the user, insuring the timely receipt of search results. Additional funds in the amount of $52,900 are necessary to continue these services.

User satisfaction is evidenced not only by the number of favorable comments received, but by the trend of steadily increasing requests received from widely dispersed geographical areas. The service has grown from approximately thirty requests processed per month at the outset of the program to over 200 processed at the present time, and each month a greater number of requests is received.

In a special library, the adequacy of the library collection is determined by (1) decree of match between subject content of the collection and information requirements of the rising clientele, and (2) currency of literature resources. Although a greater quantity of scientific and technical literature is being written in the area of natural resources, inflation costs of more than 27% per year force the Library to acquire less material and be more selective in its choices as costs continue to rise. Furthermore, United States and Foreign government documents which were at one time furnished free, now must be paid for and their costs have risen. For example, the U. S. Government Printing Office prices have increased. In five years the Monthly Catalog increased from $7.00 to $27.00; Statistical Bulletin $1.50 to $15.00; Federal Register $25.00 to $50.00. National Technical Information Service documents priced at $2.50 five years ago are now sold on a sliding scale ranging from $3.50 to $113.75 and up. The Library is now emphasizing the development of its access to information through the greater utilization of computerized data bases and a modest increase of $6,700 will be necessary to continue to provide adequate information documentation sources for the Department.

Additional salary and benefit cost for within grade increases, filling of key vacant positions and promotions of staff account for the $45,500 of the amount requested.

A Travel increase in the amount of $11,900 is requested to enable the N.R.L. to accomplish the goal established for FY 78 to provide technical assistance and onsite training in ten of the field libraries which are the major resources nodes in library systems and to participate more effectively with other State, Regional, and Federal networks in implementation of the program goals of reducing overall costs through the greater exchange and sharing of resources.

Expansion of the workload, materials and visitors to the library, while still occupying the space which was not originally designed for a library, has caused severe problems in operations. Lack of sufficient storage, space, lighting and work areas have led to staff problems as well as hindering efficient operations. Funding in the amount of $150,000 is requested to begin work in modernization and upgrading of the facilities to accommodate minimal needs of the office. Examples of work to be done, depending on final cost estimates are: replacing shelves, lighting, additional approved wiring for machines, ventilation and minor alterations to better accommodate the staff and work flow.

Cost Factors

: Additional costs of salary and benefits to fill key vacant positions and normal salary and related costs increases	$ +45,500
: Increased travel responsibilities	+11,900
: Additional machine rentals, leases, printing, binding and related services	+79,700
: Increased computer usage and programming costs	+52,900
: Minor alterations, correction of safety hazards and improvement of working conditions	+150,000
Total increases	$ +340,000

Program Description - The Natural Resources Library is the lead library in the National Natural Resources Library and Information System (NNRLIS), consisting of over 400 field libraries and information centers. The systems and services developed at NRL are now being utilized by these field activities. Considerable effort over the past three years has been expended in developing this network and the cooperation necessary for its successful operation. Field libraries are dependent upon continued NRL support for their being.

3. Office of Minerals Policy Research and Analysis

Fiscal year 1977, $2,233,000; Fiscal year 1978, $1,488,000; decrease of $745,000.

Major Program Changes

(A)	One-time cost of study Petroleum Reserve No. 4 (Pet. 4), FY 1977	- 1,000,000
(B)	Increased cost of operations and additional contract funds	+255,000

Proposal

The additional funding requested will provide for the increased cost of salary/benefits of current personnel, such as within grade increases and full year funding of positions vacant for part of FY 1977. The requested funds will also provide for increased cost of printing the Secretary's Annual Reports and other material on Energy and Minerals data, lease or computer terminal and data machines, and other costs of operation. The reduction of $1,000,000 for the Pet. 4 study undertaken in FY 1977 is partially offset by an additional $220,000 to provide funding for expanded contract studying and computer time.

Justification

The Office of Minerals Policy and Research Analysis is the focal point for energy and minerals policy development and coordination in the Department of the Interior. OMPRA conducts both in-house and contract studies of national minerals policy issues, minerals industry problems, and minerals related R&D program planning and evaluation activities.

Cost Factors

Increased cost of Salary and Benefits.....	$+21,000
Additional lease time on data machines, telephone lines and typewriters.....	+10,000
Printing and related cost increases.....	+14,000
Additional contract studies, computer time and reduction in equipment purchases.....	+210,000
Reduction due to Pet. 4 study.....	-1,000,000
Total Decrease	-745,000

Program Description - The Office functions are divided into three interrelated areas: Policy Analysis, Data Analysis, and Research and Analysis activities. Minerals Policy Research and Analysis personnel have developed a prototype methodology for estimating optimal critical minerals stockpile sizes, compiled and are keeping current a comprehensive energy source, supply, and consumption reference volume - Energy Perspectives - and have developed an econometric model of national coal strike impacts.

OMPRA will be designing and directing contract studies that include: studies of coal development impacts on Western communities; a study of the benefits and costs of Federal, State, and local laws, regulations, and standards that affect the supply and consumption of coal; optimal development, transportation, and distribution of National Petroleum Reserve - Alaska petroleum; an assessment of the application of computerized analysis systems to minerals exploration; further development of critical minerals stockpile analyses under several policy options; an evaluation of non-fuel minerals royalty systems; and an analysis of tariff systems on the minerals industry.

D. Office of Aircraft Services

Fiscal year 1977, $1,632,000; Fiscal year 1978, $1,380,000; decrease of $252,000.

Major Program Change

The continuing plan of replacement of aircraft in Alaska will result in the following changes in FY 1978:

: Decrease of $430,000 from FY 78 base due to procurement of 3 requested aircraft.

: Increase of $36,000 from net FY 78 base for procurement of 1 new aircraft. This results in a net decrease in procurement of $394,000.

: Additional cost of operations due to salary increases, temporary personnel, travel and other support costs, $143,000.

Proposal

The additional funding will provide for the increased costs paid to seasonal employees used to assist the Aircraft Office during peak periods (fire season), additional travel funds to review Departmental Aircraft program needs with contractors, and service the Bureaus needs in aircraft safety, training and procurement. The remaining increases are for continued training of OAS personnel in aircraft safety and usage to maintain a safe and efficient aircraft operation Departmentwide, and other related support costs.

Justification

The Office of Aircraft Services is responsible for all DOI Aircraft operations in Alaska as well as for certain consolidated aircraft operations in the contiguous 48 states. Participating bureaus are charged for these aircraft operations based on their usage. Many of the services provided by this office are difficult to identify to an end user and are therefore directly funded.

The Piper PA-18 included in the FY 78 budget is a replacement for Piper PA-18 N704. N704 will be 11 years old at the time of replacement and will have approximately 4,000 hours total time. For a good portion of the total time, the aircraft was operated during the winter on skis. Rough ski landings resulted in numerous landing gear failures and resulting fuselage damage. At present, the aft section of the fuselage needs to be straightened and the fabric should be replaced within a year.

The aircraft is currently being used as a project aircraft for U. S. Fish and Wildlife Service Law Enforcement which requires continual availability for extended periods of time. Chartering an aircraft for this type of work is impractical and expensive because of required standby or availability guarantee. The nature of the enforcement work itself which requires exclusive use by Federal employees precludes the use of charter aircraft.

Cost Factors

Additional funds requested are in the following areas:

- salary and benefits for temporary peak period help and normal salary increase of other staff..... $+77,000

- travel funds to provide service to bureaus in aircraft matters..... +10,000

- increased training, supplies, computer time for data and cost information and other related support costs..... +55,000

- 1 new for replacement only aircraft..... + 36,000

- reduction for FY 77 aircraft request..... -430,000

Total Decreases..... 252,000

Program Description - The Office of Aircraft Services has responsibilities in the following areas:

1. Promulgation of Departmentwide policies and procedures governing the aviation programs and general administrative services. Such activities include development, implementation and maintenance of policies governing dual-function and incidental pilots; development and maintenance of minimum standards for pilot qualifications; maintenance of policy prescribing aircraft certification requirements; development of accident/incident reporting and accident data collection procedures; development, implementation, and maintenance of management information systems to provide cost utilization data on DOI aircraft operations; and implementation of career development programs for pilots and other aviation specialists.

2. Aviation Safety Program. This program includes safety problem identification; inventory and inspection of aircraft operations including maintenance and ground fueling facilities; maintenance of accident/incident data and analysis thereof; accident investigation activities; aviation safety training of key bureau employees involved with aircraft programs; and in general, management of an intensive accident prevention program. Other activities relating to aviation safety are search and rescue missions, the cost of which in some instances is substantial.

3. Aviation Technical Services. Technical service activities include flight checking Government pilots for proficiency; ground and flight training of bureau pilots; program review with bureaus to determine aircraft contracting requirements; development of technical specifications for aircraft contracts; research of specialized equipment requirements; advisory services with respect to cost/benefit comparisons of various equipment options; assistance to bureaus in the field with respect to contract administration and operational problems; and certification of charter operators and pilots acceptable for DOI use.

4. Replacement of Aircraft. The Aircraft replacement program which began in fiscal year 1976 to update the aged Alaskan fleet is vital to the safety and welfare of all users of Aircraft Services. This program is to continue in fiscal year 1978 with $36,000 being requested to replace a small Piper Cub.

   In addition to the aircraft mentioned above, in section 106 of the General Provisions of the Department of the Interior authority is requested to acquire from surplus two additional aircraft for replacement only.

E. Emergency Preparedness

Fiscal year 1977, $461,000; Fiscal year 1978, $530,000; increase of $69,000.

Proposal

The additional funds requested in the FY 1978 budget will provide for full year funding of the 3 new positions approved in FY 1977 for the Water Program; normal within grade salary increases for the current staff; additional travel funds to enable the staff members to maintain contacts with industry and industry personnel for the standby organization of Emergency Preparedness; and, additional printing of reports and studies.

Justification

Executive Order 11490, which assigned non-military defense preparedness functions to the Secretary of the Interior, provides that Interior shall, consistent with the policy direction of the Federal Preparedness Agency (FPA), General Services Administration, prepare and maintain national emergency plans, develop preparedness programs, and be prepared to implement, in the event of an emergency, all appropriate plans developed under this order. These preparedness assignments, nationwide in scope, cover electric power, petroleum and gas, solid fuels, minerals, and water. The funds sought in this request will provide limited readiness activities in the areas for which Interior has long had emergency preparedness responsibilities.

Cost Factors

Annualization of new positions granted in FY 1977

: full year funding for vacant positions and normal within grade increases for current staff.....	+61,000
: additional travel and other support costs.....	+ 8,000
Total increase...	$69,000

Program Description - Emergency Preparedness is composed of the following functional areas with responsibilities as indicated:

Oil and Gas

- Develop and maintain the national emergency petroleum and gas plans.
- Participate in development and conduct of testing of national emergency petroleum and gas plans.
- Develop and maintain the standby national emergency petroleum and gas organization, the Emergency Petroleum and Gas Administration, established by the Secretary of the Interior.
- Develop and maintain training and testing programs for members of the standby Emergency Petroleum and Gas Administration.
- Assist the Secretary of the Interior and the Assistant Secretary - Energy and Minerals in maintaining and utilizing petroleum and gas industry advisory groups which, upon request, conduct studies and provide data concerning resource availability and emergency measures.
- Participate in international emergency petroleum and gas planning and testing programs, including maintenance of standby emergency mechanisms and also joint plans with Canada.

- Develop and maintain emergency operating facilities for all elements of standby emergency petroleum and gas organizations.

Minerals and Solid Fuels

- Maintain surveillance over the adequacy of supply of minerals and solid fuels and recommend to the Federal Preparedness Agency specific actions to maintain the mobilization base. Assist the industries in resolving problems relating to supply deficiencies and other factors which may affect national security.

- Plan for a wide range of contingencies, including shortages or disruption of supplies of minerals and solid fuels under peacetime crisis, as well as nuclear attack conditions.

- Develop supply/demand, mobilization base and other special studies for the evaluation of the adequacy of supply of essential resources.

- Maintain the Emergency Minerals Administration and the Emergency Solid Fuels Administration and improve the capability for the effective conduct of emergency operations at the national and regional levels.

- Conduct training programs for Executive Reservists and emergency personnel, including exercises to test emergency resources mobilization plans.

- Revise input data for the Federal Preparedness Agency's computerized activities on minerals and solid fuels facilities for analysis and management of resources.

- Provide advice and assistance to the Federal Preparedness Agency, General Services Administration, on stockpile policies, objectives, disposals and their related influence on the minerals industries.

- Provide Departmental representation on the Industry Evaluation Board for the evaluation and rating of critical facilities.

- Coordinate the development of programs for strategic and critical materials under the Defense Production Act.

Electric Power

- Maintain a viable emergency organization in readiness for activation and developing preparedness measures designed to provide an adequate supply of electric power for the Nation under all emergency conditions. In an emergency this organization would be activated and would exercise the emergency authorities of the Secretary of the Interior with respect to electric power, as delegated by the Secretary.

- For conditions of natural disaster emergencies, when requested by the Federal Disaster Assistance Administration, Department of Housing and Urban Development, to the degree required to carry out those delegated disaster assistance responsibilities for electric power assigned to the Secretary of the Interior.

- Organization Development - To provide a viable emergency preparedness organization capable of functioning independently at National or Field level, under all emergency conditions.

- Operational Readiness - To improve the emergency readiness posture of the DEPA Organization to insure immediate response under defense or peacetime emergencies.

- Resource Management Planning - To develop and maintain supporting plans to assure the optimum supply and controlled use of electric power under all emergency conditions.

Water

- Provide leadership and guidance within the Federal and local governmental establishments in order to provide for equitable distribution of potable water for civilian consumption in the event of an emergency.

- Provide for necessary allocation to industrial and agricultural sectors of our mobilization economy. Continue emergency planning for this resource and provide the organizational alignments and plans for Federal, State, and local cooperation in the event of an emergency.

- Develop the emergency water plans and establish contracts with major water development entities.

This planning effort will be directed toward providing for the equitable distribution of potable water for civilian consumption in an emergency and to assure adequate supplies of water for industrial and agricultural requirements.

7. Outer Continental Shelf Program

Fiscal year 1977, $650,000; Fiscal year 1978, $677,000; increase of $27,000.

Major Program Changes

In past years funding has been requested to provide support and related costs for conducting the various regional and nationwide Advisory Board meetings. The recent Department decision to pay travel and related cost for Board members to attend the national meetings and the additional cost of staff members to attend OCS hearings, and state meetings regarding OCS matters, is the reason for the requested increased travel funds. Other increases are minimal and will enable this staff to continue to provide direction to the Departmental OCS Program.

Justification

In FY 1978 the OCS will implement an accelerated leasing program, a revised schedule was published in January 1977. It appears that, because of delays in the early sales, at least 6 sales will be conducted in FY 1978. Coordination will be required for all steps leading up to these sales, and for the activities emanating from past leasing. Continuing problems relating to OCS drilling, transportation and storage are placing tremendous demands for information by state, industry and environmental groups on the OCS staff.

Cost Factors

Increased funding is required in the following areas:

: salary and benefits for staff.....	+12,000
: travel and related expenses for board members and OCS personnel.....	+32,000
: adjusted cost of support services and council meetings.....	-17,000
Net Increase	+27,000

Program Description - The Outer Continental Shelf Program has responsibility, through the Assistant Secretary - Program Development and Budget, for coordination of Interior OCS projects; identification of policy issues requiring Secretarial action; monitoring progress on lease/sale actions; providing Departmental input to OCS hearings; and serving as liaison with states, industries and Congressional committees interested in the development of the Outer Continental Shelf. Presently there are OCS offices in New York, Los Angeles and the Headquarters staff in Washington, D.C.

A Joint Federal-State Advisory Board has been established to provide a vehicle for reviewing State views and recommendations on OCS-related issues. The board is composed of Governors of the coastal States and Pennsylvania, or their designated representatives, and policy level officials from Interior, NOAA, EPA, FEA, CEQ, DOD, DOT, and State. The Secretary chairs the board and the Office of OCS Program Coordination provides the necessary administrative support. Attached to the national board are both regional groups established to address local concerns and ad hoc committees established to address technical issues. The National Board meets at least twice a year and the Regional Boards meet at the request of the majority of its members.

The Office of OCS Program Coordination is responsible for performing the following duties in connection with this board: (1) scheduling of meetings, including the preparation of agenda and logistical support activities; (2) coordination of necessary follow-up to meetings, including the identification of issues requiring Secretarial attention; (3) monitoring of all associated activities of the board, including attendance at regional meetings; (4) serving as point of liaison for State delegations who either need assistance or information concerning the OCS program; and (5) establishing the necessary ad hoc committees.

8. Ocean Mining Administration

Fiscal year 1977, $0; Fiscal year 1978, $464,000; increase of $ 464,000

Major Program Changes

Ocean Mining is a potentially important source of raw materials for the United States. The current Law of the Sea Conference will have a major impact on the United States role in deep seabed mining of minerals. It is essential that the United States has a full knowledge of and role in this Conference. The additional funds requested will provide for the increased support for Interior personnel to insure both United States input and review, coordinated with various other Federal agencies, of Law of the Sea proposals.

In FY 1977, a staff of three positions and $100,000 was provided within the Assistant Secretary - Energy and Minerals immediate office which is contained in "Salaries and Expenses." In order to reflect its Departmentwide scope, Ocean Mining is now carried in the "Departmental Operations" appropriation.

The increase of 9 positions and $364,000 in FY 1978 over what was appropriated in FY 1977 to the Office of the Secretary will provide the necessary funds to adequately maintain United States presence at Law of the Sea and related functions.

Proposal

This request will provide the necessary funding for 12 positions. The additional funds cover salary, benefits, travel, rental of space, typewriters, and other support costs associated with this program. Staff personnel will be necessary to review, evaluate and draft proposals for the Law of the Sea Conferences. These meetings are held worldwide and require coordination of all Federal input for a cohesive response on any United States position on Deep Seabed Mining.

Justification

Key personnel of the Ocean Mining Administration will continue to be involved in the third United Nations Conference on the Law of the Sea. These additional resources will provide the staff necessary to gather needed information, collect and verify data, research proposals, review proposed regulations and other general assistance needed for the Department's representatives to the Conference. It is important to have a single Federal input to these negotiations, with knowledge of minerals leasing and mining.

Program Description

The Ocean Mining Administration will continue to provide support for Interior as the lead agency in the international negotiations on the Law of the Sea related to deep seabed minerals. This office will continue the Departments' responsibility to provide primary policy advice and technical support to the Department of State.

9. General Services

Fiscal year 1977, $1,100,000; Fiscal year 1978, $1,317,000; increase of $217,000.

Major Program Changes

The activity "General Services" was established in Fiscal Year 1977 to consolidate individual office charges for space, FTS, postage, employee compensation and other general support costs. Funds were withdrawn from each of the activities in Departmental Operations and placed into the new account.

Proposal

General Services will continue to support all activities of the account and provide a single activity for general costs such as space, FTS and postage which are difficult to assign to individual offices. This activity is similar to General Services in "Salaries and Expenses."

Justification

A single budget activity to identify service costs over which the Department has no real control, such as space, FTS and employee compensation, consolidates the total cost for these services, as best can be determined by Appropriation.

It is essential from a management and budget review process to identify and centrally fund these costs. These costs are basically uncontrollable and program requests should not unduly suffer due to these increases.

The Office of Administrative Services has been working with the U.S. Post Office to attempt to adequately identify postage costs for the Office of the Secretary. Initial audit and spot sampling have determined that the Office of the Secretary has been underestimating the postage usage. The additional funds of $66,000 represent the Departmental Operations portion of the estimated increased cost of postage.

The additional funding requested for space costs represents the increased charge by GSA for space rental. The additional cost of doing business with GSA for such services as maintenance, repair or renovation, while escalating, is budgeted for by each activity. The increased cost of FTS is also due to additional rate increases by GSA for telephone usage. The requested funds for Employee Compensation represent payments to the Department of Labor for job related injury and accidents.

Cost Factors

The increased funding for the activity will be applied as follows:

	FY 78 Increase	FY 78 Total
Space - increased GSA cost	$ +99,000	$ 1,057,000
FTS - increased GSA cost	+32,000	84,000
Postage	+66,000	156,000
Employee compensation	+20,000	20,000
Total increase	217,000	1,317,000

Program Description - The activity "General Services" covers general expense items which are not practical to distribute to the various offices in the Secretariat. These items incluce but are not limited to:

- Space cost payable to GSA
- FTS cost payable to GSA
- Postage payable to U.S. Post Office
- Employee compensation payable to Department of Labor

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
DEPARTMENTAL OPERATIONS

ESTIMATED OBLIGATIONS BY SUBACTIVITY AND OBJECT CLASS, FISCAL YEARS 1977 AND 1978

Activity/Subactivity	Fiscal Year	Personnel Compensation	Personnel Benefits	Travel	Transportation of Things	Rent Comm. & Utilities	Printing & Reprod.	Other Services	Supplies and Materials	Equipment	Total	Positions
1. Office of Hearings & Appeals.	1977	4,918,000	405,700	215,000	23,500	93,400	67,000	393,300	55,000	45,100	5,316,000	189
	1978	4,076,600	407,600	215,000	23,500	95,000	70,000	408,300	63,000	25,000	5,384,000	189
2. Office of Library and Information Services.....	1977	1,158,300	92,000	15,000	2,500	22,000	55,000	30,900	212,500	295,800	1,884,000	57
	1978	1,193,100	102,700	26,900	2,500	63,000	87,000	233,800	215,000	300,000	2,224,000	57
3. Office of Minerals Policy Research and Analysis.....	1977	642,200	61,800	31,000	10,000	15,000	40,000	1,400,000	14,000	19,000	2,233,000	27
	1978	662,200	62,800	31,000	10,000	25,000	54,000	620,000	14,000	9,000	1,488,000	27
4. Office of Aircraft Services..	1977	627,200	57,800	157,000	10,000	45,000	15,000	242,000	20,000	458,000	1,632,000	26
	1978	693,200	68,800	167,000	10,000	45,000	15,000	296,000	25,000	60,000	1,380,000	26
5. Emergency Preparedness.....	1977	358,400	31,600	23,000	--	10,000	11,000	16,000	6,000	5,000	461,000	15
	1978	416,100	34,900	29,000	--	10,000	13,000	16,000	7,000	4,000	530,000	15
6. Outer Continental Shelf Program.....	1977	372,900	33,100	43,100	--	23,600	30,000	130,300	8,000	9,000	650,000	13
	1978	379,800	38,200	75,100	--	25,000	31,000	115,900	8,000	4,000	677,000	13
7. Ocean Mining Administration..	1977	(89,000)	(8,000)	(3,000)	--	--	--	--	--	--	(100,000)	(3)
	1978	270,000	25,000	51,000	--	38,000	20,000	50,000	5,000	5,000	464,000	12
8. General Services.....	1977	--	--	--	--	1,100,300	--	--	--	--	1,100,000	--
	1978	--	20,000	--	--	1,297,000	--	--	--	--	1,317,000	--
TOTAL DEPARTMENTAL OPS.....	1977	7,177,000	682,000	484,100	46,000	1,309,000	218,000	2,212,500	315,500	831,900	13,276,000	327
	1978	7,691,000	760,000	595,000	46,000	1,598,000	290,000	1,740,000	337,000	407,000	13,464,000	339

83-561 O - 77 - 95

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY

DEPARTMENTAL OPERATIONS

For necessary expenses for certain operations that provide departmentwide services, [$12,926,000] $13,464,000

(Department of the Interior and Related Agencies Appropriation Act, 1977.)

Change in Appropriation Activity

The following changes in Appropriation Activity classifications are presented in the FY 1978 Budget Justification.

1. Establishment of a "General Services" activity to centrally fund certain operating costs such as space, FTS and postage. To establish this activity the following transfers were made in FY 1977:

	Space	FTS	Postage	Total
Office of Hearings & Appeals..	$-425,000	$-25,000	$-35,000	$-485,000
Library & Information Services.....	-425,000	-12,000	-30,000	-467,000
Minerals Policy Research and Analysis.....	-50,000	-5,000	-10,000	-65,000
Office of Aircraft Services...	--	-5,000	-5,000	-10,000
Emergency Preparedness.....	-23,000	--	--	-23,000
Outer Continental Shelf.....	-35,000	-5,000	-10,000	-50,000
Total.....	958,000	52,000	90,000	1,100,000

2. Establishment of a "Ocean Mining Administration" activity. This function was previously funded as a small staff within the Assistant Secretary - Energy and Minerals, in the "Salaries and Expenses" Appropriation.

Justification for Airplanes

Funding has been included in the "Office of Aircraft Services" activity for the purchase of 1 new, for replacement only, aircraft. This replacement program will attempt to upgrade and revitalize the Alaskan fleet currently in operation. The Office of Aircraft Services is excessing unusable aircraft or aircraft no longer economical to fly and has reduced the size of the Alaskan fleet from 38 aircraft in FY 1975 to an estimated 27 aircraft in FY 78. Full justification for the aircraft proposal is contained in the Aircraft Services narrative.

In addition to the aircraft mentioned above, in section 106 of the General Provisions of the Department of the Interior, authority is requested to acquire from supplies two additional aircraft for replacement only.

This language is requested to provide the Office of the Secretary with the authority, if necessary, to acquire from surplus an aircraft which might be of use to the Department. Any acquisition from supplies would result in an aircraft from the current fleet being excessed so as not to increase the size of the fleet.

DPEARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
DEPARTMENTAL OPERATIONS
Program and Financing (in thousands of dollars)

	1976 actual	1977 estimate	19TQ estimate	1978 estimate
Program by activities:				
1. Office of hearings and appeals	5,360	1,772	5,316	5,384
2. Library and information services	2,267	628	1,884	2,224
3. Johnny horizon program office	301	77	--	--
4. Office of minerals policy research and analysis	1,012	667	2,233	1,488
5. Office of aircraft services	2,265	280	1,632	1,380
6. Emergency preparedness	297	97	461	530
7. Outer continental shelf program	247	214	650	667
8. Ocean mining administration 1/	--	--	--	464
9. General services 2/	--	--	1,100	1,317
Total direct program	11,749	3,735	13,276	13,464
Reimbursable programs	253	80	35	40
Total program costs, funded	12,002	3,815	13,311	13,504
Change in selected resources (undlivered orders)	-463	-244	--	--
10.00 Total obligations	11,539	3,571	13,311	13,504
Financing				
11.00 Offsetting collections from Federal funds	-253	-80	-35	-40
21.00 Unobligated balance available, start of period	--	-1,080	--	--
24.00 Unobligated balance available, end of period	1,080	--	--	--
25.00 Unobligated balance lapsing	--	160	--	--
Budget authority	12,366	2,570	13,276	13,464
Budget authority				
40.00 Appropriation	12,366	2,570	12,926	13,464
44.20 Supplemental now requested for civilian pay raises	--	--	350	--
Relation of obligations to outlays:				
71.00 Obligations incurred, net	11,286	3,490	13,276	13464
72.00 Obligated balance, start of period	2,215	2,014	1,950	2,190
74.00 Obligated balance, end of period	-2,014	-1,950	-2,190	-2,708

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
DEPARTMENTAL OPERATIONS
Program and Financing (in thousands of dollars) cont.

		1976 actual	1977 estimate	19TQ estimate	1978 estimate
77.00	Adjustments to expired accounts.....	-191	275	--	--
90.00	Outlays, excluding pay raise supplemental....	11,296	3,811	12,700	12,932
91.20	Outlays, from pay raise supplemental.....	--	--	336	14

1/ Includes $464,000 in FY 1978 for activities related to Ocean Mining Administration previously financed from "Salaries and Expenses"; FY 1976 $ 95,400; TQ $23,850; FY 1977 $100,000.

2/ Revised to reflect the establishment of a new budget activity "General Services." This activity was funded by reductions of all current budget activities for a consolidated source for space, FTS and related costs. Comparable amounts for FY 1976 ($1,004,000) and TQ ($261,000) are included above.

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
DEPARTMENTAL OPERATIONS

Object Classification (in thousands of dollars)

	1976 Actual	19TQ Actual	1977 Estimate	1978 Estimate
Direct obligations:				
Personnel compensation				
11.1 Permanent positions	5,613	995	6,772	7,236
11.3 Positions other than permanent	385	42	400	450
11.5 Other personnel compensation	8	2	5	5
Total personnel compensation	6,006	1,039	7,177	7,691
Personnel benefits:				
12.1 Civilian	637	81	682	760
21.0 Travel and transportation of persons	284	79	484	595
22.0 Transportation of things	10	2	46	46
23.1 Standard level user charge	871	351	958	1,195
23.2 Other rent, comm., & util.	450	187	351	403
24.0 Printing and reproduction	200	67	218	290
25.0 Other services	1,187	1,407	2,213	1,740
26.0 Supplies and materials	317	206	315	337
31.0 Equipment	1,324	71	832	407
Total direct obligations	11,286	3,490	13,276	13,464
Reimbursable Obligations:				
24.0 Printing and reproduction	24	20	5	5
25.0 Other services	229	60	30	35
Total reimbursable oblig	253	80	35	40
99.0 Total obligations	11,539	3,570	13,311	13,504

Personnel Summary

Direct:				
Total number of permanent positions	336	--	327	339
Full-time equivalent of other positions	37	--	35	40
Average paid employment	310	--	345	364
Average GS grade	10.14	--	10.11	10.11
Average GS salary	$20,595	--	$21,038	$21,705
Average Salary of ungraded positions	$12,930	--	$14,100	$14,100

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SPECIAL FOREIGN CURRENCY PROGRAM

HIGHLIGHT STATEMENT

The Department's fiscal year 1978 special foreign currency request is $1,000,000, an increase of $93,000 over fiscal year 1977, which is required to carry out contract research with the countries of Egypt, India and Pakistan.

These research contracts are of direct benefit to programs conducted by the U.S. Geological Survey, Bureau of Reclamation, Fish & Wildlife Service, and the National Park Service.

The following chart identifies applied research and endangered species research and management by Country and Bureau:

	Applied Research			Endangered Species Research		
Country	Exchange Rate Fluctuation	Bureau of Reclamation	Geological Survey	Fish and Wildlife Service	National Park Service	Total
Egypt	---	---	---	$181,500	$ 62,000	$ 243,500
India	$12,500	$ 163,000	$ 110,000	202,700	76,000	564,500
Pakistan	---	---	---	100,000	92,000	192,000
Total	$12,500	$ 163,000	$ 110,000	$ 484,200	$ 230,000	$ 1,000,000

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

(SPECIAL FOREIGN CURRENCY PROGRAM)

Appropriation/total available, 1976	$ 1,494,000
Appropriation/total available, 1977	907,000

SUMMARY OF INCREASES AND DECREASES, 1978

	Base for 1978	Increase 1978
Applied Research:		
Spendout of current program - Poland	51,000	-51,000
Research Program - India	256,000	+29,800
Endangered Species Research:		
Research - India	243,500	+35,200
Research - Pakistan	125,000	+67,000
Research/Management - Egypt	231,500	+12,000
Total, Net Increase, 1978		93,000
Budget Estimate, 1978		1,000,000

OFFICE OF THE SECRETARY
SALARIES AND EXPENSES

SPECIAL FOREIGN CURRENCY PROGRAM

Analysis by Activities

Activity/Subactivity	Appropriation 1976	Appropriation 1977	No. of Perm. Pos.	1978 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1978 Compared with Appropriation 1977	No. of Perm. Pos.	Page Ref.
1. Applied Research								
Appropriation	$ 1,494,000	$ 307,000		$ 285,800		$ -21,200		
Unobligated Balance brought forward	318,321	1,817,157		--		-1,817,157		
Obligation Program	70,164	2,124,157		285,800		+1,838,357		
Unobligated Balance carried Fund	1,742,157	--		--		--		
2. Endangered Species								
Appropriation	--	600,000		714,200		+114,200		
Unobligated Balance brought forward	--	--		--		--		
Obligation Program	--	600,000		714,200		-114,200		
Unobligated Balance carried forward	--	--		--		--		
3. Total Appropriation	1,494,000	907,000		1,000,000		+93,000		
Total Unobligated brought forward	318,321	1,817,157		--		-1,817,157		
Total Obligation Program	70,164	2,724,157		1,000,000		+1,724,157		
Total Unobligated carried forward	1,742,157	--		--		--		

JUSTIFICATION

Research: Fiscal year 1977, $907,000; fiscal year 1978, $1,000,000; increase of $93,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)	$ -51,000	--	--	--	Spendout of applied research program with Poland
(B)	+29,800	--	285,800	--	Continuation of applied research program with India
(C)	+114,200	--	714,200	--	Increased Endangered Species Research in Egypt, India & Pakistan
	$ +93,000	--	$ 1,000,000	--	

Program Synopsis

This request proposes to continue the applied research program begun in India with FY 1977 funding. In addition the endangered species projects will be pursued in Egypt, India and Pakistan.

A. Spendout of applied research with Poland

Fiscal Year 1977, $51,000; Fiscal Year 1978, 0; decrease of $51,000.

Major Program Changes
(1) Completion of program

B. Continuation of Applied Research Program in India

Fiscal Year 1977, $256,000; Fiscal Year 1978, $285,800; increase of $29,800.

Proposal

The overall objective of the proposed program with India is to conduct an exchange of scientific and technical research that will enhance and support the Department's domestic objectives and will also benefit India's domestic research program.

The Department is proposing a four-year program which will have an estimated total cost of $881,800 (in special foreign currencies).

To continue this research program, a total of $285,800 rupee equivalents is required for fiscal year 1978 to be allocated as follows:

Bureau of Reclamation	$ 163,000
Geological Survey	110,000
Exchange rates fluctuation	12,800
Total	$ 285,800

PROJECT LISTING

BUREAU OF RECLAMATION AND GEOLOGICAL SURVEY
F.Y. 1977 - F.Y. 1979

Project Title	Bureau	F.Y. 1977	F.Y. 1978	F.Y. 1979	F.Y. 1980	Total
1. Seismic Analysis and Performance of Earth and Rockfill Dams (The Beas Project Dams).....	Bureau of Reclamation	$ 15,000	$ 15,000	$ 10,000	---	$ 40,000
2. Seismic Analysis and Performance of Earth and Rockfill Dams (Ramganga Dam).....	" "	10,000	10,000	8,000	---	28,000
3. Earthquake Engineering for Concrete Dams.....	" "	15,000	15,000	10,000	---	40,000
4. Weed Control in Canals	" "	21,700	15,000	15,000	---	51,700
5. Polymer Concrete for Water Resources Structure.....	" "	15,300	20,000	16,000	---	51,300
6. Economical Construction of Concrete Dams.....	" "	10,000	10,000	10,000	---	30,000
7. Dispersive Clays.....	" "	10,000	10,000	10,000	---	30,000
8. Surging in Draft Tubes.....	" "	7,000	7,000	2,500	---	16,500
9. Identification and Treatment of Expansive Soils.....	" "	10,000	10,000	7,000	---	27,000
10. Reduction of Cavitation Erosion in Hydraulic Systems...	" "	6,000	6,000	7,000	---	19,000

PROJECT LISTING (Cont.)

Project Title	Bureau	F.Y. 1977	F.Y. 1978	F.Y. 1979	F.Y. 1980	Total
11. Studies on Concrete-Polymer Materials and Pipe Applications	Bureau of Reclamation	$ 26,000	$ 27,000	$ 20,000	---	$ 73,000
12. Soil Dynamics.....	" "	10,000	10,000	7,000	---	27,000
13. Noise and Vibration Generated by Hydraulic Turbines.....	" "	12,000	8,000	5,000	---	25,000
Bureau of Reclamation Total		168,000	163,000	127,500	---	458,500
1. Geophysical Techniques and ERTS Imagery in Search for Water....	Geological Survey	20,000	35,000	35,000	20,000	110,000
2. Seismicity of the Himalayan Front	" "	35,000	35,000	35,000	35,000	140,000
3. Geophysical Techniques and ERTS Imagery in Search for Minerals	" "	20,000	40,000	40,000	20,000	120,000
Geological Survey Total.....		75,000	110,000	110,000	75,000	370,000
Total Fluctuation in Exchange Rates.....	" "	13,000	12,800	12,500	15,000	53,300
Total.....		256,000	285,800	250,000	90,000	881,800

Bureau of Reclamation Projects

1. Seismic Analysis and Performance of Earth and Rockfill Dams (The Beas Project Dams)

Justification

A comprehensive, dynamic analysis and measurement of performance will be conducted on the Pong Dam and Pandoh Dam, which are located in highly seismic areas, through laboratory testing, field instrumentation and measurement installation. New instrumentation will be developed to measure strains caused by dynamic loads.

Although there are instrumentation and analysis of selected dams in the United States, sufficient investigation, analysis, and instrumentation of these dams in India will provide verification or modification of assumptions used in the design of similar structures in the United States. The Bureau of Reclamation is also designing earth and rockfill dams and analyzing many old dams of this type which may be subjected to large earthquake forces. New approaches to establishing the damping values and limiting the liquefaction potential would be mose useful to dam designers and construction engineers in building dams in the United States to withstand seismic forces.

The research on this project will be conducted by the Roorkee School of Research and Training in Earthquake Engineering, University of Roorkee, U. P., India, where unique laboratory and machine shop facilities are available.

Cost Factors

The total estimated cost in rupee equivalents of this three-year project is $40,000; $15,000 is required for fiscal year 1977, $15,000 is required for fiscal year 1978, and $10,000 for fiscal year 1979.

2. Seismic Analysis and Performance of Earth and Rockfill Dams (Ramganga Dam)

Justification

Comprehensive dynamic analysis and performance measurements will be made of the Ramganga Dam, a 125-meter-high earth and rockfill embankment, which is presently under construction in a highly seismic area. The damping and dynamic stress-strain characteristics of embankment soils will be studied in the laboratory. Special emphasis will be placed on liquefaction potential of soils under sustained loadings during large earthquakes.

The testing procedures to be used on the Ramganga Dam are similar to the research procedures which will be used on the Beas Project Dams described above. Different results, however, are expected from the two projects because of the differing locations, sizes, foundations, and structural compositions between the two projects.

New knowledge will be gained on the actual behavior of an earth and rockfill dam when subjected to strong earthquake shocks for comparison with design assumptions of damping characteristics, susceptibility to liquefaction, and stress-strain relationships under strong, sustained vibratory motion.

The occurrence of strong earthquakes near large dams is usually a rare event, but one which will inevitably happen during the lifetime of many dams in the Western United States. Important information can be obtained from this research in India where such occurrences are frequent.

The India research organization for this project will be the U. P. Irrigation Research Institute at Roorkee or the Government of India Irrigation Research Institute at Poona. The Irrigation Research Institute at Roorkee has 200 scientific and technical personnel who specialize in hydraulic modeling and also in applied research in other water resources development. More than 300 scientific and technical personnel are assigned to the Central Water and Power Research Station at Poona which has both basic and applied research in water resources fields.

Cost Factors

The total estimated cost in rupee equivalents of this three-year project is $28,000; $10,000 is required for fiscal years 1977 and 1978 respectively, and $8,000 will be required in fiscal year 1979 for completion of this project.

3. Earthquake Engineering for Concrete Dams

Justification

Analysis and field instrumentation for Idikki, Koyna, and Ukai concrete arch and gravity dams will advance the science of concrete dam design and construction for seismic forces by preparing existing dams in highly seismic areas for recording their reactions to strong motion of major earthquakes.

The Bureau of Reclamation has major concrete dams in existence and under construction in highly seismic areas in the United States. More knowledge is needed on how they react to actual major earthquakes. Since India has several highly seismic areas where major concrete dams exist, knowledge will be obtained to develop and verify methods to compute the behavior of concrete dams subjected to seismic forces.

These methods will be used to check existing dams and to design new ones in the United States.

This research will also be conducted at the Central Water and Power Research Station of the Central Water and Power Commission, Poona, India, with more than 300 scientific and technical personnel engaged in basic and applied research related to water resources. (This is also the site of the United Nations Cavitation Research Center.)

Cost Factors

The total estimated cost in rupee equivalents of this three-year project is $40,000; $15,000 is required in fiscal year 1977, $15,000 for fiscal year 1978, and $10,000 in fiscal year 1979.

4. Weed Control in Canals

Justification

Biological weed control methods for canals are currently under investigation in India and the United States. Weed eating fish, such as grass carp, for use in controlling growth of flora in irrigation distribution systems are being used in the Indian research program. This research would further develop these methods for the purpose of finding the most efficient method for controlling weeds in irrigation systems and will develop an effective biological method of using the grass carp (teno pharyngodon idella) for controlling submerged aquatic weeds in irrigation canals without significant adverse effect to the ecological balance.

In the United States the grass carp is considered by many fishery biologists as a competitor with the native sport fisheries; this prevents the opportunity for conducting the necessary field tests to determine the effectiveness of the grass carp for controlling weeds in canals. In India the grass carp is not looked upon as a nuisance that is likely to become a pest, but rather as a desirable resource to supplement the human protein diet. Therefore, investigations could be carried out freely under controlled field conditions to gather the information needed to evaluate the grass carp as biological weed control agent. This research would have significant benefits to both the United States and India in irrigation canals which are choked with aquatic weeds requiring a costly method of keeping the canals open for delivery of irrigation water to grow crops for food and fiber.

This research would be done at the Central Water and Power Research Station, Poona, India, which has been described above. The Poona Station parallels the interests of the Bureau of Reclamation in this and many other areas of applied research. Closer collaboration of these organizations should be of mutual benefit to India and the United States. Results would be shared and work done abroad would augment the Bureau's domestic research programs.

Cost Factors

The total estimated cost in rupee equivalents of this three-year project is $51,700; $21,700 is required for fiscal year 1977, $15,000 for fiscal year 1978, and $15,000 in fiscal year 1979.

5. Polymer Concrete for Water Resources Structure

Justification

Investigations into the use of polymer impregnated concrete for resistance to abrasion in tunnels, chutes, and stilling basins of dams and canals could reduce costs by providing an effective material in critical areas of water projects where serious damage and failure may occur due to abrasive action of water flows.

Damage has occurred to concrete structures due to the erosive effect of high velocity water flows, especially those containing silt or sand particles. Any new developments in hardening the concrete in critical areas would be useful.

Cost Factors

The total estimated cost in rupee equivalents of this three-year project is $51,300; $15,300 is required for fiscal year 1977, $20,000 for fiscal year 1978, and $16,000 for fiscal year 1979.

6. Economical Construction of Concrete Dams

Justification

Methods of design and construction of concrete dams using reduced quantities of costly cement will be developed. Elimination of cracks due to temperature and other causes will be sought. Concrete-type material that is more durable and erosion resistant than conventional Portland cement concrete will be developed and should reduce the cost of concrete dams, thereby making their use more economical in providing water and power for the United States.

There is a definite need for more economical methods of design and construction of concrete dams. With the present shortage of cement, means need to be developed to reduce further the cement requirement. Research to provide better control of cracking would permit the use of large blocks in the dam with resultant savings in construction costs of dams which will be built in the future.

Cost Factors

A total funding of $30,000 in rupee equivalents is required for this three-year program; $10,000 will be needed for each year beginning with fiscal year 1977.

7. Dispersive Clays

Justification

Simple tests will be made to identify dispersive clays and to seek inexpensive ways to eliminate their erosive tendencies. These tests may determine ways to prevent inadvertent use of dispersive clays in dam embankments and to change these dispersive characteristics.

Small earth dams in the United States have been damaged by erosion and piping; several dams have failed due to use of this soil. It would be of great benefit to the Bureau of Reclamation if this problem were solved since these soils occur in the Western United States. It is most important that these clays be identified by simple tests that can be made during the selection of borrow materials to be used in dam embankments. Physical-chemical evaluation of this phenomenon of solution and erosion is not yet clearly defined and is needed to establish limits of properties to guard against use of these dispersive clays.

Research on this project would be done at the Indian Institute of Science at Bangalore, India. This distinguished center of research in physical sciences was founded in 1911 and now has 20 departments. Many of the faculty were trained in the United States and the Civil Engineering Department has a very good potential for high-quality research in dispersive and expansive clays.

Cost Factors

A total funding of $30,000 in rupee equivalents is required for this three-year program; $10,000 is required for fiscal year 1977, fiscal year 1978, and fiscal year 1979.

8. Surging in Draft Tubes

Justification

Draft tube surges arise when there is excessive swirl remaining in the flow leaving the turbine runner and entering the draft tube. Various flow passages, including the spiral case, stay vanes, wicket gates, and the runner buckets have an effect on how much swirl exists in the flow. Analytical studies will be performed by constructing models of typical draft tubes and surveying the flow along the draft. Field investigations will verify the validity of the models.

Correlation of measurements and analytical results should eliminate surging in draft tubes of new turbines.

Eliminating draft tube surges or even increasing the range of surge-free operation would eliminate vibration, noise, and power output fluctuation problems common in many power plants. With the rapidly increasing sizes of generating units, vibration caused by draft tube surges could become a very serious problem, requiring remedial measures of unprecedented proportions.

The Bureau of Reclamation has had a major research program on draft tube surges underway for a number of years, utilizing its own personnel and equipment as well as that of universities and outside laboratories. Having much of the work done in India would not require the expensive and time-consuming design and installation of laboratory equipment required to conduct the entire test program in the United States. Results from Indian and U.S. research indicate that cooperation between these two countries in this field will have international benefit. In addition, if done entirely in the United States, it would cost approximately three times as much as the estimated cost in India.

Research on this project would also be conducted by the Indian Institute of Science in Bangalore, which does high-quality research in draft tube surges which affect Indian and other foreign dams as well as Bureau dams and other dams in the United States.

Cost Factors

Total funding in rupee equivalents for this three-year project is $16,500; $7,000 for fiscal year 1977, $7,000 in fiscal year 1978, and $2,500 in fiscal year 1979.

9. Identification and Treatment of Expansive Soils

Justification

Black cotton soil and pure montmorillonite will be studied intensively to seek new ways to determine their expansiveness and to improve the engineering characteristics of these soils.

83-561 O - 77 - 96

This information will be used to determine simplified means of identification and the effects of inorganic and organic natural material stabilizers.

In the United States the cost of damage to buildings, highways, and canals from expansive clays is enormous. New approaches are needed to identify low-cost stabilizing procedures. Currently moisture and density control and lime mixtures are the principal methods of expansive clay treatment under development in the United States. There is need for the study of physical and chemical properties which would lead to the use of simpler and less expensive natural materials that could be mixed with the soil or added through the water to counteract the swelling tendency. Such physical-chemical studies would greatly facilitate the identification and evaluation of potential expansion for consideration in design of structures.

The Indian Institute of Science at Bangalore will do the research on this project. This distinguished center of research in physical sciences was founded in 1911 and many of its faculty were trained in the United States. Its Civil Engineering Department has excellent capabilities for high-quality research in dispersive and expansive clays.

Cost Factors

The total funding in rupee equivalents required for this three-year project is $27,000; $10,000 in fiscal year 1977, $10,000 in fiscal year 1978 and $7,000 in fiscal year 1979.

10. Reduction of Cavitation Erosion in Hydraulic Systems

Justification

This research will evaluate the comparative resistance to cavitation erosion of new concrete-type materials, epoxy resins, monomers, metals, and other protective systems used for overlays or repairs in high-velocity flow passages or hydraulic machinery. Damage potential of cavitation of various intensities also will be studied.

It is anticipated that we may be able to define new materials to be used in construction of water passages which will be subjected to high-velocity flows and to classify repair material to be used when cavitation erosion occurs.

Hydraulic systems in the United States have suffered cavitation erosion in installations where high-velocity flows exist. The results of this study would be beneficial in defining materials to reduce or eliminate cavitation erosion and subsequent costly repairs. Effective epoxy mortars and concretes that are found highly resistant to erosion will be used on the concrete surfaces of hydropower systems in the United States and India where erosion is a problem. The Indian Institute of Science in Bangalore would also carry out this research.

Cost Factors

Total funding of $19,000 in rupee equivalents is required for this three-year project; $6,000 in fiscal year 1977, $6,000 in fiscal year 1978, and $7,000 in fiscal year 1979.

11. Studies on Concrete-Polymer Materials and Pipe Applications

Justification

Studies of structural and serviceability property measurements of polymer impregnated concrete and polymer-mix concrete under environmental conditions in India will be supplemented by data available from other programs which are being conducted by the Bureau of Reclamation. Studies will also be performed to develop production techniques and to evaluate properties of polymer fibrous concrete (containing metallic or nonmetallic fibers). The studies will be extended to include design, development of production techniques, and performance evaluation of polymer fibrous concrete pipe. Such studies will complement Bureau research in this important field.

New information will be used to determine the strength and durability aspects of concrete-polymer materials under ordinary and aggressive environments and to supplement information from other Bureau of Reclamation programs aimed at developing commercial production techniques and usage for such materials in the precast concrete industry in general. Particular emphasis will be given to the development and usage of polymer fibrous concrete pipe.

The Bureau of Reclamation would gain information on new construction material for use in water resource projects. Additional work on concrete-polymer materials would contribute significantly to the overall development of such materials which has been pioneered by the Bureau. Benefits to the Bureau would also include improved durability of pipe, particularly its increased resistance to acid and sulfate attack, thereby making it a superior product for water and sewer needs. Improved structural properties will allow the production of pipe with either thinner walls or less reinforcement, which should result in reduced production costs. Of the several special concretes developed to date, polymer concretes offer potential advantage of high strength, negligible permeability, and improved durability as compared to conventional concretes.

This research will be performed at the Indian Institute of Science which has a 100-ton universal testing machine, concrete cutting and slicing machines, and loading frames of different capacities to test concrete structural components. Facilities are also available for impregnation and polymerization.

Cost Factors

Total funding in rupee equivalents of $73,000 is required for this three-year program; $26,000 in fiscal year 1977, $27,000 in fiscal year 1978, and $20,000 in fiscal year 1979.

12. Soil Dynamics

Justification

The ability of the soil to absorb shock (damping) and the dynamic stress-strain characteristics of embankment soils will be studied in the laboratory. Special emphasis will be placed on liquefaction potential of soils under sustained loadings during large earthquakes to identify damping factors for use in dam design and to find the limits of safety against liquefaction for saturated embankment soils.

The Bureau of Reclamation is designing earth and rockfill dams and analyzing many old dams of this type which may be subjected to large earthquake forces. New approaches to establishing the damping values and limiting the liquefaction potential would be very useful in ongoing Bureau programs. India has need for information on the dynamic properties of soils since there are dam projects contemplated and underway in highly seismic areas of that country. Dynamic testing of soils is a new field experiencing rapid changes and developments. Experiences and correlations of testing in highly seismic areas would be of particular value to the United States where correlations involving the effects of earthquakes on different types of soils are relatively few.

Research under this project will also be conducted by the Indian Institute of Science, Bangalore, India.

Cost Factors

The total cost of this three-year project in rupee equivalents is $27,000; $10,000 for fiscal year 1977, $10,000 for fiscal year 1978, and $7,000 for fiscal year 1979.

13. Noise and Vibration Generated by Hydraulic Turbines

Justification

Laboratory model studies and prototype field tests will be made to determine the spectrum of frequencies existing in the flow passages and various turbine components. Attempts will be made to correlate the hydrodynamic forcing frequency to vibrating turbine component. In addition, spectral signatures will be obtained periodically for monitoring physical wear of turbines. Spectra will be correlated to establish criteria for monitoring the physical condition of the equipment and scheduling of maintenance.

Results of this research should lead to information useful to prevent damage to the vanes of the turbine due to resonant vibrations. In addition, the development of reliable methods for identifying vibrations and noise will result in large savings because such vibrations and noise often indicate evidence of wear on moving parts. The additional capability for monitoring vibrations and noise will lessen the frequency of costly maintenance shutdowns which otherwise would be necessary to determine such wear.

Research under this proposal would also be conducted at the Indian Institute of Science, Bangalore.

Cost Factors

The total estimated cost of this three-year project in rupee equivalents is $25,000; $12,000 being required for fiscal year 1977, $8,000 for fiscal year 1978, and $5,000 for fiscal year 1979.

Geological Survey Projects

1. Geophysical Techniques and ERTS Imagery in Search for Water in Shield Areas

Justification

This project deals with the application of ERTS imagery and geophysical techniques in the search for ground water in areas of crystalline bed rock. This project would provide information on how to identify without extensive drilling, and thus at lower cost, areas in which crystalline rocks have had their permeability and porosity increased by the geologic processes of fracturing and faulting to the point where they have become ground water reservoirs.

We hope to develop new techniques for finding fracture zones which may be sources of ground water and to locate dry fractures or fissure zones suitable for disposal of liquid wastes.

Successful development of such techniques is of great importance to the entire Piedmont province of the United States which extends from New England to Georgia and in increasing the production of ground water for potable water supply or mineral uses that might come from such rocks. Identification and measurement of ground water resources of the United States are among the principal responsibilities of the Water Resources Division of USGS. This project will advance work already being undertaken by the USGS. There will be no lessening of the application of U.S. manpower to domestic programs.

The counterpart agency for this project is the Indian National Institute for Geophysical Research in Hyderabad. Under the leadership of Dr. Hari Narain the Institute has a world-wide reputation for exceptional work in the field of geophysics.

Cost Factors

Funding estimates in rupee equivalents total $110,000 as follows: fiscal year 1977 - $20,000, fiscal year 1978 - $35,000, fiscal year 1979 - $35,000, and fiscal year 1980 - $ 20,000.

2. Seismicity of the Himalayan Front

Justification

The first step in this project will be to establish a network of instrumentation in selected areas comprising seismic instruments, strain gauges, tiltmeters, and precise leveling devices to determine relative motions of the fault, and the frequency and strength of earthquakes associated with the fault. Continual monitoring will provide a picture of the earthquake regime and a continuing view of displacement in the vicinity of the fault which will improve prediction techniques and determine ways to prevent earthquakes.

Data collected by these instruments will be similar to that being collected in the earthquake program currently being carried out by the U.S. Geological Survey and the associated National Center for Earthquake Research along the San Andreas fault in California. It is anticipated that the Indian data will broaden the base for the San Andreas work which in large part is aimed at prediction, and possibly even partial prevention, of damaging earthquakes.

The research organization for this project will also be the Indian National Institute for Geophysical Research in Hyderabad described above.

Cost Factors

This four-year project would require a total funding in rupee equivalents of $140,000; $35,000 per year for fiscal years 1977, 1978, 1979, and 1980.

3. Geophysical Techniques and ERTS Imagery in Search for Minerals

Justification

Through the use of ERTS imagery of areas containing contacts between the Deccan trap rocks and underlying rocks known to contain mineral deposits, it should be possible to extrapolate the position of the geologic structures known to be associated with mineral deposits into areas covered by trap rocks. Electrical and other geophysical methods will be employed in an attempt to locate these structures at depth and to determine if structures so found are mineral bearing.

Application of ERTS imagery and geophysical techniques in the search for deeply buried ore deposits should result in the development of methods that can be used by the minerals industry in such areas of the United States as the Pacific Northwest where potentially ore bearing rocks are overlain by the Columbia River basalts. The project is an analogue of work being started by the Branch of Regional Geophysics of the Geological Survey.

The research organization for this project will also be the Indian National Institute for Geophysical Research in Hyderabad described above.

Cost Factors

This four-year project would require a total funding in rupee equivalents of $120,000; $20,000 in fiscal year 1977, $40,000 in fiscal year 1978, $40,000 in fiscal year 1979, and $20,000 in fiscal year 1980.

C. Endangered Species Research in Egypt, India & Pakistan

Fiscal Year 1977, $600,000; Fiscal Year 1978, $714,200; increase of $114,200.

Proposal

"Responsibilities and authorities of the U.S. Fish and Wildlife Service for international wildlife conservation are quite explicit under the Endangered Species Act of 1973 (Public Law 93-205).

Sec. 8. (a) Financial Assistance. --As a demonstration of the commitment of the United States to the worldwide protection of endangered species and threatened species, the President may...use foreign currencies accruing to the United States Government under the Agricultural Trade Development and Assistance Act of 1954 or any other law to provide to any foreign country (with its consent) assistance in the development and management of programs in that country which the Secretary determines to be necessary or useful for the conservation of any endangered species or threatened species..."

This program will stress ecological studies, species status surveys, and the development of ecosystem and species management in "foreign excess currency" countries, initially India, Pakistan, and Egypt. The U.S. Fish and Wildlife Service will establish cooperative programs in which qualified American personnel work closely with the host country's employees insofar as providing guidance and impetus to meaningful wildlife research programs. The main overseas scientific studies and management work shall be accomplished through scientific contracts given to universities and/or private research/management organizations. Where possible, the programs will be coordinated with the United Nations Environmental Program, the International Union for the Conservation of Nature and Natural Resources, the World Wildlife Fund, and with other agencies and departments having complementary program interests.

SUMMARY OF U.S. FISH AND WILDLIFE SERVICE PROJECTS

Project Title	F.Y. 1977	F.Y. 1978	F.Y. 1979	F.Y. 1980	Total
A. Proposed Foreign Currency Research Program for India	(243,500)	(197,700)	(156,700)	(85,000)	(682,900)
1. Ecosystems Research (Evavikulam-Rajamallav)	43,800	42,500	42,500	---	128,800
2. Research on Endangered and Threatened Species					
a. Crocadilian Research	60,000	50,000	50,000	35,000	195,000
b. Pythons	10,800	10,000	---	---	20,800
c. Dugong Research	16,600	14,200	14,200	---	45,000
d. Monitor Lizards Research	12,300	11,000	---	---	23,300
3. A Cooperative India/International Union for Conservation of Nature and Natural Resources/World Wildlife Fund/U.S. Fish and Wildlife Service "Project Tiger" Research/Management plan to protect and to preserve viable populations of tigers and their ecosystems	100,000	70,000	50,000	50,000	270,000

Project Title	F.Y. 1977	F.Y. 1978	F.Y. 1979	F.Y. 1980	Total
B. Proposed Foreign Currency Research Program for Pakistan	(125,000)	(100,000)	(70,000)	(70,000)	(365,000)
1. Conduct Cooperative Pakistan/International Union for Conservation of Nature and Natural Resources/World Wildlife Fund/U.S. Fish and Wildlife Service/Universities--Status surveys for endangered and threatened Fauna and Flora of Pakistan, leading to a priority work system for the research and management of these species and their ecosystems	125,000	100,000	70,000	70,000	365,000
C. Proposed Foreign Currency Research Program for Egypt	(231,500)	(175,500)	(145,000)	(50,000)	(602,000)
1. Nile Crocodile Research	50,000	40,000	40,000	25,000	155,000
2. Cheetah Research	40,000	30,000	25,000	---	95,000
3. Leopard Research	50,000	40,000	40,000	25,000	155,000
4. Dugong Research	60,000	40,000	25,000	---	125,000
5. Slender-Horned Gazelle Research	31,500	25,500	15,000	---	72,000
Fish & Wildlife Service Total	$600,000	$473,200	$371,700	$205,000	$1,649,900
Fluctuation in Exchange Rates	---	11,000	40,000	20,000	71,000
Total	$600,000	$484,200	$411,700	$225,000	$1,720,900

Fish & Wildlife Projects (India)

1. Ecosystems Research (Eravikulam-Rajamallay

Justification

An investigation will be made of the status and ecological relationships of the fauna of the Eravikulam-Rajamallay area in the Kerala High Range in southern India. This unique 25,000 acre ecosystem, with its concentration of threatened species, presents an unparalleled opportunity for investigating the ecology and conservation of India's wildlife.

We will obtain data on the status and ecology of the large mammalian fauna of the Eravikulam-Rajamallay ecosystem, particularly those that are threatened or endangered.

Information gained during the project will have strong bearing on research programs in the United States, especially as regards studies of predator-prey relationships and ecosystem functioning. Besides aiding in a valuable conservation effort, the U.S. would benefit in that some of the techniques, and solutions developed in the course of the project would have applicability to American wildlife research.

Cost Factors

The total estimated cost in rupee equivalents for this 3-year project is $128,800 with $43,800 required for FY 77, $42,500 for FY 78, and $42,500 for FY 79.

2. Research on Endangered and Threatened Species

Justification

A cooperative study will be made to locate and evaluate the habitat requirements of the remaining populations of endangered species in India and to develop a management plan for the restoration of the species to an ecologically secure status.

Our present day knowledge of population dynamics of many endangered species is fragmentary and limited. A strong need exists for general expansion of the data base, particularly where such data either affects work with similar species in the United States or where socioeconomic and commercial factors are determinants to the survival of the species.

A. Crocodilian Research

This program would extend over a 4-year period and would require an estimated funding of $195,000 with $60,000 needed in FY 77, $50,000 in FY 78, $50,000 in FY 79, and $35,000 in FY 1980.

B. Python Research

This 2-year project will require an estimated funding of $20,800 with $10,800 needed in FY 77, and an additional $10,000 in FY 78.

C. Dugong Research

The dugong program is for a 3-year period and would require an estimated

funding of $45,000 with $16,600 needed in FY 77, $14,200 in FY 78, and $14,200 in FY 79.

D. Monitor Lizards

The total estimated costs for this 2-year program is $23,300 with $12,300 needed in FY 77 and an additional $11,000 in FY 78.

3. Project Tiger

The U.S. Fish and Wildlife Service and the biological staff of certain American universities will cooperate with the Government of India in working toward the success of Project Tiger and to assist in obtaining information and in carrying out conservation programs needed for the preservation of the tiger.

Applied research leading to the development of conservation plans for the tiger and worldwide cooperation in the protection of endangered and threatened species and their ecosystems are fully justified for the U.S. Fish and Wildlife Service as outlined in Section 8 of the Endangered Species Act of 1973. In addition, it would be expected that information gained by U.S. biologists could have applicability to work with large American carnivores.

The tiger is the most critically endangered of all the large cats, and yet it also holds the greatest historical, aesthetic, and social values for most persons. Millions of Americans have a strong and emotional interest in this species, particularly in its traditional Indian habitat. This concern by our people would tend to justify the proposed commitment by the Federal Government.

The estimated funds equivalent to Indian rupees for this 4-year project is $270,000 with $100,000 needed in FY 77, $70,000 in FY 78, $50,000 in FY 79, and $50,000 in FY 80.

Fish and Wildlife Projects (Pakistan)

A Survey of the Endangered and Threatened Wildlife of Pakistan

Endangered and threatened animal species of Pakistan would be investigated in the field. The first phases of work would involve general surveys of habitat and location of populations, along with background research and literature review. Subsequent investigation would concentrate on particular problems and interests developed during the surveys.

We hope to obtain data on the endangered and threatened species of wildlife in Pakistan, and to assist in the development of programs for the conservation of such species.

Pakistan has an unusually large concentration of endangered and threatened species. Nearly all of the larger kinds of mammals and reptiles are in these categories. These animals include a considerable variety of wild sheep and goat species, several species of big cats, many other ungulates and carnivores, and five species of sea turtles. Each of the sea turtles and some of the other animals are identical or closely related to species found within U.S. territory. Work with these animals would prove useful

for conservation efforts in Pakistan and also would help in the understanding of wildlife problems in the United States.

Funds for work in Pakistan by U.S. and Pakistani scientists could be obtained through sole use of Special Foreign Currencies. Funds to provide training programs for Pakistani scientists in the United States might be obtained from AID, Department of State and cooperating private organizations.

The total estimated cost in rupee equivalents of this 4-year project is $365,000 with $125,000 needed in FY 77, $100,000 in FY 78, $70,000 in FY 79 and $70,000 in FY 80.

Fish and Wildlife Projects (Egypt)

Endangered Species Research

Cooperative study will be made to locate and evaluate the status and habitat requirements of the remaining populations of endangered species in India and to develop a management plan for the restoration of such species to an ecologically secure status.

Our present day knowledge of population dynamics of many endangered species is fragmentary and limited. A strong need exists for general expansion of the data base, particularly where such data either affects work with similar species in the United States or where socioeconomic and commercial factors are determinants to the survival of the species.

A. Nile Crocodile Research

The total estimated cost of this 4-year project is $155,000 with $50,000 in FY 77, $40,000 in FY 78, $40,000 in FY 79, and $25,000 in FY 80.

B. Cheetah Research

The total estimated cost in Egyptian pound equivalents for this 3-year project is $95,000 with $40,000 in FY 77, $30,000 in FY 78, and $25,000 in FY 79.

C. Leopard Research

The estimated cost of this 4-year program is $155,000 with $50,000 needed in FY 77, $40,000 in FY 78, $40,000 in FY 79, and $25,000 in FY 80.

D. Dugong Research

The projected FY 77 cost of this 3-year program is $125,000 in dollar equivalents to Egyptian pounds with $60,000 needed in FY 77, $40,000 in FY 78, and $25,000 in FY 79.

E. Slender-Horned Gazelle Research

The projected cost of this 3-year project is $72,000 with $31,500 needed in FY 77, $25,500 in FY 78, and $15,000 in FY 79.

SUMMARY OF NATIONAL PARK SERVICE PROJECTS
IN PAKISTAN, INDIA, AND EGYPT
FY 1978 FY 1980

Foreign Currency Equivalents

Project Title	FY 1978	FY 1979	FY 1980	Total
A. Parks & Reserves Planning, Management, and Protection in (Pakistan)	$80,000	$140,000	$60,000	$280,000
B. Habitat Protection & Training of Park Personnel (India)	70,000	130,000	100,000	300,000
C. Management of Parks & Protection of Endangered Species (Egypt)	60,000	120,000	40,000	220,000
Reserve for Fluctuation in Exchange Rates	20,000	40,000	20,000	80,000
Total	$230,000	$430,000	$220,000	$880,000

National Park Service Projects (Pakistan)

1. Planning and management of national parks and other reserves for the protection of endangered or threatened species in Pakistan

Justification

In cooperation with the government of Pakistan, areas will be selected that have the capability of providing the ecological conditions necessary to protect threatened and endangered species. Management plans and programs will be prepared for priority national parks and other reserves within the country. Emphasis will be given to developing approaches which will incorporate species protection in conjunction with other social and economic considerations such as tourism, watershed management, education and recreation. Efforts will include Khunjerab National Park which affords protection to the snow leopard, marmots, brown bear and other threatened species, and for the creation of a national park for Himalayan fauna. Training of personnel responsible for wildlife and park management will be carried out in conjunction with the project.

Programs will be carried out in coordination with the U.S. Fish and Wildlife Service and international organizations such as International Union for the Conservation of Nature (IUCN), United Nations Environmental Program (UNEP), and Food and Agriculture Organization of the United Nations (FAO).

These studies will help to provide for the protection of endangered and threatened species by cooperation with Pakistan officials and other international organizations in the identification, establishment and management of national parks and other protected areas.

The protection of endangered species is considered to be of benefit to all citizens, and the U.S. has pledged itself to conserve to the extent practicable the various species of fish, wildlife and plants facing extinction.

Results of efforts that lead to the establishment and management of national parks and other reserves should contribute significantly to the desired protection of endangered species as well as contributing to other social and economic objectives of the country.

Funding

This projection is planned for a three year duration beginning in F.Y. 1978. Funding required in rupee equivalents for each fiscal year is as follows:

F.Y. 1978 - U.S.		$ 80,000
F.Y. 1979 - U.S.		140,000
F.Y. 1980 - U.S.		60,000
	TOTAL	$280,000

National Park Service Projects (India)

1. Training of national park personnel in the protection of endangered or threatened species in India

Justification

Foreign nationals involved in the planning and management of national parks and other reserves in which endangered or threatened species are or could be protected will be trained in the principles and techniques necessary to administer these areas. Programs will include training courses and planning and management field exercises involving U.S. and Indian personnel which will be carried out in areas where endangered or threatened species are found. Consultation and assistance will be given in the establishment and operation of a permanent training school for the preparation of personnel for park management.

The protection of endangered species is considered to be of benefit to all citizens, and the U.S. has pledged itself to conserve to the extent practicable the various species of fish, wildlife, and plants facing extinction. Results of these training programs should lead to the formation of personnel who are capable of providing the technical skills and leadership necessary to effectively manage the areas established for the protection of the endangered or threatened species of India.

Methodology will be developed which will be applicable in the future to carrying out programs in other countries with similar characteristics.

Cost Factors

This project is planned for a three year duration beginning in F.Y. 1978. Funding required in rupee equivalents for each fiscal year is as follows:

F.Y. 1978	$ 70,000
F.Y. 1979	130,000
F.Y. 1980	100,000
	$300,000

National Park Service Projects (Egypt)

1. Management of national parks and other areas for the protection of endangered or threatened species in Egypt

Justification

In cooperation with the government of Egypt, protected conservation units will be selected that have the capability of providing the ecological conditions necessary to protect endangered and threatened species. Management plans and programs will be prepared for areas to be established as national parks and other reserves. Emphasis will be given to developing approaches which will incorporate species protection in conjunction with other social and economic considerations such as agriculture, tourism, water management, education and recreation. Priority will be given to selection and management of areas which can be instrumental in the protection of crocodiles, cheetah, leopards, dugong, and gazelles as well as the management of biosphere reserves bordering the Suez Canal.

The protection of endangered species is considered to be of benefit to all citizens and the U.S. has pledged itself to conserve to the extent practicable the various species of fish wildlife and plants facing extinction. Results of plans and programs that lead to the establishment and management of national parks and other reserves should contribute significantly to the desired protection of these species.

Funding

This project is planned for a three year duration beginning in F.Y. 1978. Funding required in pound equivalents for each fiscal year is as follows:

F.Y. 1978	$ 60,000
F.Y. 1979	120,000
F.Y. 1980	40,000
	$220,000

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY

Salaries and Expenses (Special Foreign Currency Program)

For payment in foreign currencies which the Treasury Department shall determine to be excess to the normal requirements of the United States, for necessary expenses of the Office of the Secretary, as authorized by law, [$907,000] ∧ to remain available until expended: Provided, That this appropriation shall be available, in addition to other appropriations, to such office for payments in the foregoing currencies (7 U.S.C. 1704). $ 1,000,000

(Department of the Interior and Related Agencies Appropriation Act, 1977)

83-561 O - 77 - 97

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
SALARIES AND EXPENSES (SPECIAL FOREIGN CURRENCY PROGRAM)
Program and Financing (in thousands of dollars)

14-0105-0-1-306	1976 Actual	19TQ	1977 Estimate	1978 Estimate
Program by activities:				
1. Research	19	91	2,124	286
2. Endangered species	--	--	600	714
Total program costs funded	--	91	2,724	1,000
Change in selected resources	51	-91	--	--
10.00 Total obligations (object class 25.0)	70	--	2,724	1,000
Financing:				
17.00 Recovery of prior obligations	--	-91	--	--
21.00 Unobligated balance, start of period	-318	-1,742	-1,817	--
24.00 Unobligated balance, end of period	1,742	1,817	--	--
25.00 Unobligated balance lapsing	--	91	--	--
40.00 Budget authority (appropriation	1,494	75	907	1,000
Relation of obligations to outlays:				
71.00 Obligations incurred, net	70	-91	2,724	1,000
72.00 Obligated balance, start of period	205	249	157	1,081
74.00 Obligated balance, end of period	-249	-157	-1,081	-881
90.00 Outlays	26	1	1,800	1,200

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1978

PERMANENTS

(1535)

BUREAU OF LAND MANAGEMENT

Miscellaneous Permanent Appropriations

Appropriated, 1977 (estimate)	$140,800,000
Estimate, 1978	$266,150,000
Change, 1978 compared with 1977	+$125,350,000

NOTE: Payments to states in FY 1977 for most of these accounts will be based on receipts collected in the Transition Period only. This fact accounts for the large increases from FY 1977 to FY 1978 in most of these accounts.

JUSTIFICATION

1. Leasing of Grazing Lands (Receipt Limitation) - $1,000. 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 (43 U.S.C. 315m). The estimate for FY 1978 is an increase of $500 over FY 1977.

2. Payments to Oklahoma (royalties) - $2,000. The State of Oklahoma is paid 47½% of the Red River oil and gas royalties in lieu of State and local taxes on Kiowa, Comanche, and Apache tribal lands to be used for construction and maintenance of public roads and support of public schools (65 Stat. 252). The estimate for FY 1978 is an increase of $1,500 over FY 1977.

3. Payments to Coos and Douglas Counties, Oregon, from receipts, Coos Bay Wagon Road Grant Lands - $2,200,000. 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 for schools, roads, highways, bridges, and port districts (53 Stat. 753-754). The estimate is an increase of $500,000 over FY 1977.

4. Payments to counties, Oregon and California grant lands - $82,500,000. Fifty percent of the receipts of Oregon and California land-grant funds are paid the counties in which the lands are situated, to be used as other county funds (39 Stat. 218; 50 Stat. 876). The estimate is an increase of $52,937,000 over FY 1977.

5. Payments to States (proceeds of sales) - $496,000. The States are paid 5% of the net proceeds from sale of public land and public land products (31 U.S.C. 711). The estimate is an increase of $372,000 over FY 1977.

6. Payments to States from grazing receipts, etc., public lands outside grazing districts - $1,133,000. The states are paid 50% of the grazing fee receipts from public domain lands outside grazing fee receipts from public domain lands outside grazing districts (43 U.S.C. 315i, 315m). The estimate is an increase of $1,001,000 over FY 1977.

7. Payments to States from grazing receipts, etc., public lands within grazing districts - $911,000. The states are paid 12½% of grazing fee receipts from grazing district lands within their boundaries (43 U.S.C. 315b, 315i). The estimate is an increase of $883,000 over FY 1977.

8. Payments to States from grazing receipts, etc., public lands within grazing districts, miscellaneous - $-0-. 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 (43 U.S.C. 315). The estimate is less than $500 for FY 1977 and FY 1978.

9. Payments to States from receipts under Mineral Leasing Act - $177,821,000. Alaska is paid 90% and other States 50% of the receipts from bonuses, royalties, and rentals resulting from development of mineral resources under the Mineral

Leasing Act (30 U.S.C. 191), and from leases of potash deposits (30 U.S.C. 285), on public lands. The estimate is an increase of $69,608,000 over FY 1977.

10. Payments to counties, national grassland - $336,000. Of the revenues received from the use of submarginal lands, 25% is paid to the counties in which such land is situated, for school and road purposes (7 U.S.C. 1012). The estimate is an increase of $46,000 over FY 1977.

11. Expenses, road maintenance - $750,000. Public Law 94-579 approved October 21, 1976, permanently appropriated certain monies to the Secretary of the Interior. Users of roads under jurisdiction of the Bureau of Land Management may make deposits for maintenance purposes, and monies collected are available for necessary road maintenance. Monies collected on Oregon and California grant lands are available for those lands only. The estimate is the same as FY 1977.

U. S. FISH AND WILDLIFE SERVICE
MIGRATORY BIRD CONSERVATION ACCOUNT

Acquisition of refuges and waterfowl production areas: Fiscal year 1977, $16,000,000; Fiscal year 1978, $22,000,000; increase of $6,000,000.

	Budget Authority FY 1976	Budget Authority FY 1977	Estimate FY 1978	FY 1978 Changes
Advance (Current definite)	$ 7,500,000	$ 4,000,000	$ --	-$ 4,000,000
Duck Stamp Receipts (Permanent indefinite)	13,930,000	12,000,000	22,000,000	+10,000,000
	$21,430,000	$16,000,000	$22,000,000	+$6,000,000

Program Synopsis

The objective of the Service's current accelerated land acquisition program carried out with funds from the Migratory Bird Conservation Account is to preserve those habitats, primarily wetlands, most important to the maintenance of existing waterfowl populations and other migratory bird species in the United States. Emphasis is on habitats most important to the waterfowl resource (i.e., breeding and wintering) and threatened with near-term loss if not acquired by the Service. The program is nationwide in scope. Authorities for acquisition include Migratory Bird Hunting Stamp Act, as amended (16 U.S.C. 718d), and Migratory Bird Conservation Act of 1929, as amended (16 U.S.C. 715-715S).

Based on an evaluation of the ongoing program completed in 1975, new acquisition objectives, policies and priorities have been developed. New objectives are to acquire, in fee and less than fee interest, approximately 1.9 million acres of key waterfowl breeding and wintering habitat, with minor purchases of selected refuge inholdings, during the period FY 1977-86. The acquisition period may need to be extended through FY 1991 depending on fund availability. Achievement of this acquisition objective is expected to maintain habitat required by more than 50 percent of the current U.S. waterfowl production, excluding Alaska, that is not currently protected in public ownership and prevent loss of approximately 10 percent of the current average post-breeding season population of waterfowl. The estimated program cost at 1975 land values is $410 million.

In accordance with the President's message at the signing of the Wetland Loan Extension Act on February 17, 1976, the Service has proposed legislation that would allow the Secretary of Interior to set the price of Duck Stamps, based on land values and other program costs. This legislation would also require hunters of all ages to possess a valid duck stamp while hunting waterfowl.

Projected duck stamp revenues of $22 million in FY 1978 are based on expected receipts from stamps priced at $10 rather than the current $5. The increased stamp price would be partially influenced by the National Index of Average Values of Farm Real Estate, which closely reflects changes in values of migratory bird habitat purchased through the Service's acquisition program. The proposal to effect such a system was made by the Administration at the signing of P.L. 94-215, the "Wetland Loan Extension Act of 1976. The proposed increase to $10 is based on increases in the national index since FY 1973 when

the stamp price was increased to $5. The effects of inflation without compensation adjustments in funding have impacted significantly on achievement of acquisition program objectives. The national index of farm real estate values has increased 248% since the Service's accelerated acquisition program began in FY 1962. During the same period, the average annual funding for the program increased by 44%. The average price paid per acre for refuges and Waterfowl Production Areas increased 228% and 700%, respectively, between FY 1962 and FY 1975. The national rural land price index has increased an average of 16% annually since 1973, with even greater increases in regions where our program is most active such as the northcentral States where the average annual increase since 1973 was approximately 25%. The legislative proposal to allow the Secretary to set the price on the stamp, if enacted, will establish a mechanism that can automatically adjust stamp revenues to changing land values. Such a system will provide additional funds needed to achieve program objectives.

Major Program Changes	Increases	Total Program
Acquisition of Refuges and waterfowl production areas	+ $6,000,000	$22,000,000
	+ 0 positions;	Total 150

Proposal

Full implementation of new objectives, priorities and policies for the migratory bird habitat preservation program is planned for FY 1978, with FY 1977 being a transition year. The major thrust of the $22 million in FY 1978 will be to continue in accordance with established priorities the current high level of WPA acquisition and expand acquisition efforts in key wintering areas that are threatened with destruction. (See Figure 1)

A minimum acreage of inholdings on lower priority refuges will also be acquired to prevent loss of habitat and/or alleviate management problems. Allocations of the FY 78 request is shown below:

Habitat Priority	Habitat Type & Location	Acres	Cost ($000)
1, 2	WPA Central Flyway Breeding (ND, SD, MT)	14,300 F [1/] 28,000 E [1/]	$ 3,600 3,500
3	WPA Mississippi Flyway Breeding (MN)	7,000 F 2,000 E	3,100 500
4	California Central Valley Wintering	3,000	600
5	Atlantic Coast Black Duck Wintering (DE, NJ, NY, MA)	512	475
6	California Coastal Wintering	-	-
7	Miss. Delta Bottomland Wintering (AR, LA, MS, Tn)	7,500	1,500
	Subtotal	62,312	13,275

Habitat Priority	Habitat Type & Location	Acres	Cost ($000)
8	Texas Coastal Wintering	2,700	$ 330
9	Central Gulf Coastal Wintering (LA, AL)	-	-
10	Great Basin Redhead Breeding (ID, NV, Ut)	315	140
11	Miss. Flyway Outside Pothole Region Breeding (WPA) (WI)	2,000	500
12	Atlantic-Eastern Gulf Coast Wintering (DE, MD, VA, NC, SC, GA, FL)	400	200
13	Central Flyway Outside Pothole Region Breeding (CO, NB)	790	350
14	Washington Coastal Wintering	506	205
15	Oregon Coastal Wintering	-	-
	Commitments and Other Refuges Inholdings	700	500
	Incidental Acquisition Costs	-	6,500
	TOTAL	69,723	$22,000

1/ F - fee; E - easement

Justification

Migratory birds are an international resource for which the Federal Government, through the Fish and Wildlife Service, has primary responsibility for protection and management. An analysis of waterfowl habitat preservation needs completed by the Service in 1975 concluded that at least 1.9 million acres of habitat will need to be preserved by Service acquisition over the next 10-15 years to achieve migratory bird program objectives of maintaining current waterfowl population levels and distribution.

The report emphasized the necessity to preserve the most important and intensively used waterfowl breeding and wintering areas most critical to maintenance of each species and population. In the context of this emphasis, waterfowl land acquisition is high priority since habitat destruction is, for practical purposes, irreversible. Delay will result in permanent and significant habitat reductions and subsequent declines in waterfowl populations as well as other wetland-dependent migratory bird species.

Virtually all major breeding and wintering habitats in the United States are under substantial threats of destruction. The Migratory Bird Habitat Preservation Study indicates that in excess of 300,000 acres of highly productive wetlands, the key component of waterfowl habitat had been destroyed or significantly altered annually in recent years. An ongoing State-Federal Waterfowl Habitat Reconnaissance reaffirms this loss rate in key breeding and wintering habitats.

The most serious near-term losses of high quality waterfowl habitat are expected to occur in: (1) the glaciated prairie pothole region (up to 60,000 acres per year), (2) lower Mississippi River floodplain, (75,000 acres per year), (3) certain coastal areas, (4) breeding habitats outside the prairie pothole region and (5) California's Central Valley where critical water supply problems, land use conversion and overcrowding of waterfowl have resulted in heavy disease mortality and crop depredation problems. Acquisition of essential habitat is necessary to aid in these situations and prevent further habitat loss.

Improved coordination of land acquisition with other habitat preservation methods will be emphasized. However, in many areas, especially inland, non-navigable waters, there is no regulation of wetland drainage; it is even encouraged in many instances. Even where wetland destruction is regulated, such as in coastal wetlands, substantial losses continue in certain key wintering areas. Service acquisition remains as the only alternative for protecting these habitats.

Accomplishments

A comparison of program accomplishments during the years FY 1974-1976 and estimates for FY 1977-1978 is shown in the following summary:

Summary of MBCA Land Acquisition Accomplishments, FY 1974-1978

	Fiscal Year				
	1974	1975	1976	1977 (Est.)	1978 (Est.)
Refuges (Acres)	22,000	4,000	27,000	8,300	16,400
WPA (Acres)					
Fee	14,000	18,000	26,000	16,000	23,300
Easement	57,000	35,000	26,000	26,000	30,000
Total (Acres)	93,000	57,000	79,000	50,300	69,700
Budget Authority ($000)	$13,700	$12,100	$21,430	$16,000	$22,000

Benefits

Waterfowl and other wetland-dependent migratory birds benefit both consumptive and non-consumptive users as well as the public in general. Wetlands and other waterfowl habitats preserved also provide numerous other benefits to society in general such as production of other wildlife and commercial fisheries, flood control, groundwater recharge, storm buffers, and aesthetically pleasing natural areas.

Primary benefits derived from the MBCA acquisition program can be categorized as general species stewardship, conservation and recreation. Stewardship responsibilities of the Federal Government for maintenance and protection of migratory birds are emphasized through protection of habitats critical to perpetuation of species and populations. Although a substantial secondary benefit, on-site public use of migratory birds is not a primary justification for MBCA acquisition. Direct beneficiaries are approximately 2.8 million waterfowl hunters and 8-10 million birdwatchers.

MIGRATORY BIRD CONSERVATION ACCOUNT

FIGURE 1 -- LOCATION OF HIGH PRIORITY LAND ACQUISITION CATEGORIES

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

FEDERAL AID IN FISH RESTORATION AND MANAGEMENT

Statement Relating Appropriation Estimate to Current Appropriations

1977 estimate (actual receipts for fiscal year 1976).	$20,128,457
1978 estimate (estimated receipts for transition quarter and fiscal year 1977).	$27,394,000

JUSTIFICATION

The Act of August 9, 1950, commonly known as the Dingell-Johnson Act (16 U.S.C. 777a-k) authorizes the Secretary of the Interior to cooperate with the States through their respective fish and game departments in fish restoration and management projects. The Act authorizes appropriation of an amount equal to collections of the 10 percent manufacturers' excise tax on fishing rods, creels, reels, artificial lures, etc. There is authorized to be deducted from amounts so appropriated not to exceed 8 percent for expenses of administration of the Act. The remainder is apportioned to the States on the basis of a formula which takes into account the land area and number of persons holding paid fishing licenses. The Act provides for 1 percent minimum and 5 percent maximum apportionments to the States. The Commonwealth of Puerto Rico will receive 1 percent. Guam, the Virgin Islands and American Samoa will each receive one-third of 1 percent. The States, the Commonwealth of Puerto Rico and the territories of American Samoa, Guam, and the Virgin Islands have 2 years in which to obligate the apportionments. Any funds not obligated revert to the Fish and Wildlife Service and are used for the sport fish research program.

The 1978 program is $4,440,000 above 1977 as follows:

	FY 1977 Estimate	FY 1978 Estimate	Increase or Decrease (-)
1. Payments to States. -- States are reimbursed up to 75 percent of the cost of fish restoration and management projects, including research to aid in management of sport fisheries; development of access sites and facilities for fishermen; and acquisition and improvement of fish habitat. The Commonwealth of Puerto Rico and the territories of American Samoa, Guam, and the Virgin Islands are reimbursed 100 percent of the cost of such projects. Because of recent increase in receipts and the inclusion of T.Q. receipts, the program is higher in 1978.	$20,700,000	$25,000,000	$4,300,000

	FY 1977 Estimate	FY 1978 Estimate	Increase or Decrease (-)
2. Administration. -- Administration of the Act includes apportionment of funds; examination and approval of fish restoration and management plans, processing of project agreement after approval of State plans, inspection of projects; making payments to States and auditing State expenditures; and coordinating efforts of various States. The 1978 program is at a slightly higher level than in 1977. .	$ 1,660,000	$ 1,800,000	$ 140,000
3. Sport Fish Research. -- Reverted funds are available for the sport fishery research program of the Fish and Wildlife Service. The program in 1978 is at the same level as 1977	200,000	200,000	---
Total Program	$22,560,000	$27,000,000	$4,440,000

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

FEDERAL AID IN WILDLIFE RESTORATION

Statement Relating Appropriation Estimate to Current Appropriations

---

1977 estimate (actual receipts for fiscal year 1976).	$70,606,813
1978 estimate (estimated receipts for transition quarter and fiscal year 1977).	$86,847,000

JUSTIFICATION

The Act of September 2, 1937, commonly known as the Pittman-Robertson Act (16 U.S.C. 669-669j) authorizes the Secretary of the Interior to cooperate with the States through their respective fish and game departments in wildlife restoration projects. The Act authorizes the setting aside in a special Federal Aid to Wildlife Restoration fund an appropriation of amounts equal to revenues received from the 11 percent manufacturers' excise tax on sporting firearms, shells and cartridges. An amount not to exceed 8 percent is authorized to be deducted for expenses of administration of the Act. The remainder is apportioned to the States on the basis of a formula which takes equally into account the land area and the number of persons holding paid hunting licenses. The Act provides for one-half of 1 percent minimum and 5 percent maximum apportionments to the States. The Commonwealth of Puerto Rico will receive one-half of 1 percent. Guam and the Virgin Islands will each receive one-sixth of 1 percent. The States, the Commonwealth of Puerto Rico, and the territories of Guam and the Virgin Islands have 2 years in which to obligate the apportionments. Any funds not obligated revert to the Fish and Wildlife Service and are used for carrying out the purposes of the Migratory Bird Conservation Act.

The Federal Aid in Wildlife Restoration Act amendments of 1970 (P.L. 91-503) authorize the setting aside of the 10 percent manufacturers' excise tax on pistols and revolvers into the Federal Aid in Wildlife Restoration fund, and the amendments of 1972 (P.L. 92-558) authorize the setting aside of the 11 percent excise tax on certain archery equipment into the fund beginning with 1975 tax receipts. One-half of these receipts are apportioned to each State based on population and may be used to support hunter education programs, including the construction of target ranges.

The 1978 program is $8,400,000 above 1977 as follows:

	FY 1977 Estimate	FY 1978 Estimate	Increase or Decrease (-)
1. Payments to States. -- States are reimbursed up to 75 percent of the cost of approved wildlife restoration projects, including the acquisition and development of land or water areas; wildlife management research; and maintenance of completed projects. The Commonwealth of Puerto Rico and the territories of Guam and the Virgin Islands are reimbursed			

	FY 1977 Estimate	FY 1978 Estimate	Increase or Decrease (-)
100 percent of the cost of such projects. States may also be reimbursed for up to 75 percent of the cost of hunter education programs, including construction of target ranges. The 1978 program is higher than the 1977 program because of increases in excise tax collections and the inclusion of T.Q. receipts	$62,000,000	$70,000,000	$8,000,000
2. Administration. -- Administration of the Act includes apportioning funds; examining and approving State wildlife restoration projects and plans; processing project agreements; inspecting projects; making payments to States and auditing State expenditures; and coordinating efforts of the various States. The 1978 program is at a slightly higher level than in 1977.	$ 4,100,000	$ 4,500 000	$ 400,000
3. Carrying out Migratory Bird Conservation Act. -- Reverted funds are available to carry out the provisions of the Migratory Bird Conservation Act and supplement amounts available for wildlife research program of the Fish and Wildlife Service. The 1978 program is at the same level as 1977.	$ 300,000	$ 300,000	---
Total Program	$66,400,000	$74,800,000	$8,400,000

NATIONAL WILDLIFE REFUGE FUND

Statement Relating Appropriation Estimate to Current Appropriation

1977 appropriation	$4,300,000
1978 estimate	$4,400,000

JUSTIFICATION

The Refuge Revenue Sharing Act (16 U.S.C. 715s) authorizes the expenditure of revenues from the National Wildlife Refuge System. Revenues consist of receipts from the sale or other disposition of timber, grazing privileges, oil revenues, leases for public accommodations, etc. The Act authorizes deduction first of necessary expenses incurred in connection with the revenue-producing measures, and then payments to participating counties in support of schools and roads. Remaining funds were made available for management of the National Wildlife Refuge System and for enforcement of the Migratory Bird Treaty Act. However, with passage of PL 93-509 on December 3, 1974, the Act was amended to transfer the remaining funds into the Migratory Bird Conservation Fund for land acquisition under provisions of the Migratory Bird Conservation Act (16 U.S.C. 715 et seq.), except that funds for refuge management and law enforcement were not to be diminished. The following table shows the program for FY 1976 through FY 1978:

	1976	T.Q.	1977	1978
Total Receipts	$5,024,137	$1,029,690	$4,300,000	$4,400,000
Less Expenses for Sales	- 888,247	- 315,306	-1,000,000	-1,100,000
Net Receipts	4,135,890	714,384	3,300,000	3,300,000
Prior year unobligated balance	3,892,503	4,365,482	5,321,401	3,300,000
Total available current year	8,028,393	5,079,866	8,621,401	6,600,000
Less:				
Payment to counties	-3,035,029	---	-4,850,274	-3,300,000
Program - Current year	- 627,882	241,535	- 471,127	---
Balance forward	$4,365,482	$5,321,401	$3,300,000	$3,300,000

The program for 1978 is as follows:

Expenses for Sales - $1,100,000: The Act provides for payment of expenses incurred in connection with revenue-producing activities. These expenses must be paid before any other allocation of funds is made. Example of such expenses include salaries of foresters who cruise and mark timber for sale, maintenance of fences in support of grazing, and costs associated with the sale of surplus animals or refuge share of furs or crops.

Payments to Counties - $3,300,000: The Act provides that funds remaining after "Expenses for Sales" be distributed to counties in which revenue-producing refuges are located. The funds are used by counties for public roads and schools. Refuges consisting of only reserved public lands allocate 25% of their receipts to counties. Receipts from refuges acquired in fee are allocated either on the basis of 25% of net receipts or 0.75% of the value of acquired lands, whichever is larger.

The Act requires that land values be examined every five years to assure that payments are based on current market prices. This adjustment was made in computing the $4,850,274 paid to the counties in fiscal year 1977. It is estimated that in fiscal year 1978, all net receipts remaining after deduction of Expenses for Sales must be paid to the counties.

Under these circumstances, no funds are expected to be available in fiscal year 1978 for transfer to the Migratory Bird Conservation Account, or for management of the refuge system and enforcement of the Migratory Bird Treaty Act.

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

PROCEEDS FROM SALES, WATER RESOURCES DEVELOPMENT PROJECTS ACCOUNT

Statement Relating Appropriation Estimate to Current Appropriation

1977 appropriation	$55,000
1978 appropriation	$55,000

JUSTIFICATION

These receipts will be used to cover the expenses for forestry technicians administering timber harvest activities and for development and maintenance of wildlife habitat not to exceed the amount of receipts deposited as proceeds from sales. The Eufaula National Wildlife Refuge in Alabama and the Flint Hills National Wildlife Refuge in Kansas, located on a Corps of Engineers project, are currently engaged in the initial activity of timber and grain harvesting on a water resources development project. It is anticipated that additional projects eventually will qualify for utilization of this account.

A special fund receipt account was established for deposit of these receipts in accordance with Treasury regulations. This is in pursuant to 16 U.S.C. 460d, which states in part "That in any such lease or license to a Federal, State, or local governmental agency which involves lands to be utilized for the development and conservation of fish and wildlife, forests, and other natural resources, the licensee or lessee may be authorized to cut timber and harvest crops as may be necessary to further such beneficial uses and to collect and utilize the proceeds of any sales of timber and crops in the development, conservation, maintenance, and utilization of such lands".

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Miscellaneous Permanent Appropriations

Miscellaneous Permanent Appropriations: Fiscal year 1977, $320,000; Fiscal year 1978, $500,000; increase of $180,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(A)+180,000	--	$475,000	--	Educational expenses Children of Yellowstone NP
(B) --	--	25,000	--	Payment for tax losses - Grand Teton
+180,000	--	$500,000	--	

Program Synopsis

Miscellaneous Permanent Appropriation finances two activities. One of these activities is concerned with payment of educational expenses for children of employees of Yellowstone National Park. The other activity provides for payments to the State of Wyoming to cover tax losses on land acquired by Grand Teton National Park.

A. Educational Expenses, Children of Employees, Yellowstone National Park

Fiscal year 1977, $295,000; Fiscal year 1978, $475,000; increase of $180,000.

Major Program Changes

(1) Educational Expenses, Children of Employees, Yellowstone National Park +$180,000; Total $475,000

Proposal. Provide funding for increased cost of operations, tuition, supplies and materials for educational expenses of dependent children of employees of Yellowstone National Park. Increase is needed to: (1) pay tuition costs of increased enrollment, (2) cover additional costs of operating and maintaining facilities, and (3) provide additional storage facilities for school equipment and activities.

Program Description. Public Law 80-604 (62 Stat. 338) approved June 4, 1948, authorizes the use of visitor fees collected at Yellowstone National Park to provide funds necessary for the education of dependent children of park employees. Assistance is provided for maintaining educational standards at levels consistent with the Park County School District of Montana, for incremental teacher compensation, school supplies, educational aids, payment to school districts for supporting transportation and other services, and for the sound maintenance of the school plant and facilities.

B. Payment for Tax Losses on Land Acquired for Grand Teton National Park

Fiscal year 1977, $25,000; Fiscal year 1978, $25,000; no change.

Major Program Changes

(1) Payment for Tax Losses - Grand Teton National Park — Total $25,000

Proposal. Continue payments to State of Wyoming for tax losses on lands acquired by Grand Teton National Park pursuant to Act of September 14, 1960 (64 Stat. 851).

Justification. Payment to State of Wyoming for tax losses is required pursuant to Act of September 14, 1960 (64 Stat. 851).

Program Description. Pursuant to the Act of September 14, 1950 (64 Stat. 851), to the Secretary of the Interior is authorized to use visitor fees collected at Grand Teton and Yellowstone National Parks to compensate the State of Wyoming for tax losses on lands acquired for Grand Teton National Park. The amounts paid by the Service vary from year to year, due in part to the change in the tax rate and assessed valuation, the withdrawal of additional lands from the tax rolls for addition to the park, and the gradual reduction (5 percent per year after a 10-year period) in the computed amount due.

It is estimated that $25,000 will be required to compensate the State for 1977 calendar year tax losses.

GEOLOGICAL SURVEY

Permanent Appropriation

Transition Quarter	$517
Estimate, 1977	--
Estimate, 1978	--

JUSTIFICATION

Payments from Proceeds, Sale of Water, Mineral Leasing Act of 1920, Sec. 40(d), Geological Survey

When lessees or operators drilling for oil and gas on public lands strike water, water wells may be developed by the Department from proceeds from the sale of water from existing wells (30 U.S.C. 221-229). No obligations are anticipated in 1977 or 1978.

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
MISCELLANEOUS APPROPRIATIONS

Statement Relating to 1976, 19TQ, 1977 and 1978 Programs

1976 appropriation	$15,698,000
19TQ appropriation	3,528,000
1977 appropriation - estimate	12,866,000
1978 appropriation - estimate	15,630,000

JUSTIFICATION

1. Claims and treaty obligations - $200,000.

A. Fulfilling treaties with the Senecas of New York - $6,000.

This money is to be paid in equal shares to members of the Seneca Nation as provided by the Act of February 19, 1831 (4 Stat. 442).

B. Fulfilling treaties with Six Nations of New York - $4,500.

The Six Nations comprise the Senecas, Tonawanda Band of Senecas, Tuscarora, Onondago, Oneida and Cayuga Tribes. This money is allocated as follows: $2,700 to the New York Indians for the purchase of dress goods and $1,800 is distributed per capita to the Oneida Indians under the jurisdiction of the Great Lakes Agency, Wisconsin, as provided by the Act of November 11, 1794.

C. Fulfilling treaties with the Pawnees, Oklahoma - $30,000.

This money is distributed per capita to the Pawnees as provided by Article 2 as amended of the treaty of September 24, 1857.

D. Payments to Indians of Sioux Reservation - $159,500.

This is an annual charge against the general fund of the Treasury, the amount being indefinite until applications are made and approved. The legal authority for these payments is found in the Act of March 2, 1889, section 17 (25 Stat. 894); Act of June 10, 1896 (29 Stat.334); and the Act of June 21, 1906 (34 Stat. 326).

2. Operation and maintenance, Indian irrigation systems - $9,000,000.

Funds are obtained from the collection of assessments against water-users on the various projects and are deposited in the Treasury to the credit of the respective projects. Funds are used for such purposes as annual cleaning of canals and laterals to remove silt, moss and weed growth; repair and replacement of water control structures; operation and maintenance of reservoirs, dams and pumping plants, including the purchase of electrical energy; payment to other government agencies and irrigation districts for operation and maintenance of irrigation systems on Indian lands included and benefited; repair of flood damage; etc. The various projects located on Indian reservations are thus maintained in good operation, permitting the facilities constructed by the Government to be utilized by the Indian and non-Indian landowners within the project who depend upon proper operation and maintenance of the projects for irrigation farming and subsistence. The policy in administration of Indian irrigation projects is to base the assessments rates for the various projects on actual costs.

3. Power systems, Indian irrigation projects - $6,430,000.

Funds are obtained from earned revenue deposited in the Treasury to the credit of the respective projects. Funds are used for the operation and maintenance of two hydrogenerating plants; a diesel power generating plant; transmission lines; distribution systems and pumping plants for the use of the project irrigation systems; the purchase of power for resale and for all necessary expenses for operation of power systems. The project power systems serve their primary purpose of furnishing electrical energy to the projects for irrigation and drainage pumping and also furnish energy to mining and milling properties, public utilities and domestic consumers on the project proper, in nearby towns and villages, and in outlying farming areas. The energy supplied by these projects (San Carlos, Colorado Riber and Flathead Indian Reservations) in many instances is the only source of electrical energy available to the customers. The approximately 115 million kilowatt-hours which are transmitted over all project transmission and distributary systems annually serve approximately 9,600 domestic and commercial customers.

DEPARTMENT OF THE INTERIOR
TERRITORIAL AFFAIRS
ADMINISTRATION OF TERRITORIES

Internal Revenue Collections for the Virgin Islands

Appropriated, 1976	$17,283,856
Appropriated Transition Quarter	4,725,820
Estimated, 1977	19,000,000
Estimate, 1978	20,000,000
Increase 1978 compared with 1977	1,000,000

JUSTIFICATION

The local revenue collected by the Government of the Virgin Islands is matched, to the extent of the collections less refunds and costs of collection by a payment out of the quarterly revenue taxes collected by the United States on Virgin Islands products transported to the United States 26 U.S.C. 7652 (6) (3) amended, less the amount needed to cover the salaries and expenses of the Comptroller of the Virgin Islands (Public Law 90-496 approved August 23, 1968, 82 Stat, 837). Operations of the Comptroller are included in the Administration of Territories account as a reimbursement. Public Law 94-202 now provides for quarterly instead of the previous annual payments to the Virgin Islands.

Displayed below is the current year net collections and outlay distribution of funds by fiscal year:

	FY 1976	T Q	FY 1977	FY 1978
Current year net collections...	$17,283,856	$4,725,820	$19,000,000	20,000,000
Distribution by year:				
a) Collections:				
Comptroller's Office	975,000	253,000	620,000	940,000
V. I. Government	16,308,856	4,472,820	18,380,000	19,060,000
b) Outlays:				
Comptroller's Office	634,985	207,626	1,040,000	1,120,000
V.I. Government	32,732,853	3,287,197	17,753,987	18,880,000
TOTALS	33,367,838	3,494,823	18,793,987	20,000,000

Office of the Comptroller for Guam

Appropriated, 1976	600,000
Appropriated Transition Quarter	---
Appropriated 1977	441,000
Estimate, 1978	336,000
Decrease 1978 compared with 1977	105,000

Revenues locally collected in Guam derived from Federal income taxes, custom duties, and other services are used to finance the cost of the Government Comptroller in accordance with Public Law 90-497 (approved August 23, 1968). Operations of the Comptroller are included in the Administration of Territories account as a reimbursement.

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY

LITTER PREVENTION AND CLEANUP

Appropriation, 1976 actual	$8,876
Transition Quarter	4,149
Appropriation, 1978 estimate ...	-0-

JUSTIFICATION

Public Law 91-419, approved September 25, 1970, permanently appropriated certain monies to the Secretary of the Interior. Royalty fees for the manufacture, reproduction, or use of the Character "Johnny Horizon" will be used for public service anti-litter programs to maintain the beauty and utility of the Nation's public lands (18 U.S.C. 714). Nothing is estimated for fiscal year 1978 since the program was terminated in fiscal year 1977.

○