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Budget

SMITHSONIAN INSTITUTION

Budget Justifications for Fiscal Year 1982



Submitted to the Committees on Appropriations

Congress of the United States

January 1981

SMITHSONIAN INSTITUTION

Under Separate Boards of Trustees:

JOHN F. KENNEDY CENTER
FOR THE PERFORMING ARTS
NATIONAL GALLERY OF ART
WOODROW WILSON
INTERNATIONAL CENTER
FOR SCHOLARS

BOARD OF REGENTS

THE SECRETARY *

AUDITOR _____ UNDER SECRETARY *

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Board of Trustees
Board of Fellowships and Grants
Cooper Hewitt Museum
Advisory Council
Dietz Visiting Committee
Hirshhorn Museum and
Sculpture Garden
Board of Trustees
International Advisory Committee
Joint Sponsoring Committee for
the Papers of Joseph Henry
Museum of African Art Commission
National Air and Space Museum
Advisory Board
National Anthropological Film
Center Advisory Council
National Animal Tissues
Museum Advisory Board
National Board of the
Smithsonian Associates
National Collection of Time
Arts Commission
National Museum Art
Advisory Council
National Portrait Gallery
Commission
Smithsonian Astrophysical
Observatory
Visiting Committee
Smithsonian Council
Women's Committee of the
Smithsonian Associates

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Accounting Office
Office of Grants and Risk Management
Procurement Accounting Division
Business Management Office
Concessions
Staff Order Division
Smithsonian Museum Shops

GENERAL COUNSEL*

Coordinator of PUBLIC INFORMATION*

Office of Congressional Liaison
Office of Public Affairs
Office of Special Events

Director of MEMBERSHIP AND DEVELOPMENT*

Development Office
Smithsonian National Associate
Program
Smithsonian Resident Associate
Program

Assistant Secretary* for SCIENCE

Chesapeake Bay Center for Environmental
Studies
Fritz Peiser Bureau
National Air and Space Museum
National Museum of Man
Center for the Study of Man
National Museum of Natural History
National Zoological Park
Office of Biological Conservation
Office of Fellowships and Grants
Radiation Biology Laboratory
Smithsonian Astrophysical Observatory
Smithsonian Tropical Research Institute

Assistant Secretary* for HISTORY & ART

Archives of American Art
Cooper Hewitt Museum
Fleet Gallery of Art
Hirshhorn Museum and Sculpture
Garden
Joseph Henry Papers
Museum of African Art
National Collection of Fine Arts
Reynolds F. Gallery
National Museum of History and
Technology
National Portrait Gallery
Office of American and Pacific
Studies

Assistant Secretary* for MUSEUM PROGRAMS

Conservation Analytical Laboratory
National Museum Art
Office of Exhibits Council
Office of Information
Office of Museum Programs
Office of the Registrar
Smithsonian Archives
Smithsonian Institution Traveling
Exhibition Service

Assistant Secretary* for PUBLIC SERVICE

American Neighborhood Museum
Division of Performing Arts
International Exchange Service
Office of Library and Secondary
Education
Office of Smithsonian Symposia and
Seminars
Office of Telecommunications
Smithsonian Expedition Books
Smithsonian Institution Press
Smithsonian Magazine
Visitor Information and Activities
Reception Center

Assistant Secretary* for ADMINISTRATION

Office of Company Studies
Contract Office
Office of Fund Development
Office of Facilities Services
Office of Design and Construction
Office of Plant Services
Office of Reception Services
Management Analysis Office
Office of Personnel Administration
Office of Printing and Photography
Studies
Office of Programming and Budget
Office of Supply Services
Travel Services Office

SMITHSONIAN INSTITUTION

FISCAL YEAR 1982 ESTIMATES OF APPROPRIATIONS

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GENERAL STATEMENT

Organization and Performance

Founded in 1846, the Smithsonian Institution is an independent, Federal establishment devoted to public education, research and national service in the arts, sciences and history. Centered on the Mall in Washington, the Institution operates major facilities and activities throughout the country and overseas. It is one of the world's leading research centers and encompasses the world's largest museum complex, attracting approximately 27 million visitors annually to its museums, galleries and zoological park. Additional millions also view Smithsonian traveling exhibitions, which appear across the United States and abroad, and the annual Folklife Festival. As custodian of the National Collections, the Smithsonian possesses more than 78 million art objects, natural history specimens and artifacts. These collections are displayed for the enjoyment and education of visitors and are available for research by the staff of the Institution and by hundreds of visiting students, scientists and historians each year. Other significant study efforts draw their data and results directly from terrestrial, marine and astrophysical observations at various Smithsonian installations.

The Smithsonian complex presently consists of 12 exhibition buildings in Washington, D.C. and New York City in the fields of science, history, technology and art; a zoological park in Washington and an animal conservation and research center at Front Royal, Virginia; the Anacostia Neighborhood Museum, which performs research and exhibit activities in a low income area of the city in cooperation with the community; a preservation, storage, and air and space-craft display facility at Suitland, Maryland; a conference center at Elkridge, Maryland; two natural preserves, in Panama and on the Chesapeake Bay; an oceanographic research facility at Fort Pierce, Florida; astrophysical stations at Cambridge, Massachusetts and at Mt. Hopkins, Arizona, and elsewhere; and supporting administrative, laboratory and storage areas.

Smithsonian Goal

The goal of the Smithsonian Institution is to promote the increase and diffusion of knowledge. To accomplish this goal, the Smithsonian conducts a broad variety of programs alone and in cooperation with other institutions, universities, and Government agencies in the United States and abroad. These programs include:

- Collections management: The Smithsonian Institution has the legal responsibility (20 U.S.C. 59) to serve as the official repository of the National Collections which contain more than 78 million art, technological, and cultural history objects, and natural history specimens and artifacts. The responsibility involves the acquisition, documentation and conservation of these materials along with detailed record keeping or cataloguing, regular inventories, and storage or display in secure and atmospherically controlled environments.
- Basic research: Increase of knowledge is accomplished through basic research. As an independent Federal establishment, the Smithsonian conducts a broad range of scientific and scholarly research, often in cooperation with other institutions, universities and Government agencies. As a result of basic scientific research, fundamental data are assembled for use by planners and researchers in other organizations, both Government and

private. Historical research through studies in technological development, art, cultural history, biography and folklife traditions contributes to the knowledge about our heritage and about the nation's growth.

--Exhibitions, including performances and festivals or celebrations:

These presentations constitute one means of diffusing knowledge on a wide scale. In Washington and New York, Smithsonian museums, galleries, and the zoological park devote exhibit space to showing significant objects, specimens, and animals from the permanent collections. In addition, temporary exhibitions with loan materials enhance these presentations, adding fresh concepts and ideas--further enriching visitor experiences. Through the Smithsonian Institution Traveling Exhibition Service, some 170 exhibitions are seen annually by more than seven million visitors in nearly 700 institutions across the country. Live performances, festivals, celebrations, lectures and records also are enjoyed by millions of people in the Smithsonian museums as well as in institutions elsewhere and in private homes throughout the nation. Such programs are produced by the Division of Performing Arts, the National and Resident Associates Programs, and the Folklife unit.

--Education: Perhaps the most important means of diffusing knowledge is through the education programs of the Institution. These programs offer enormous variety in content and form; they range from in-depth, scholarly symposia to activities for fun and enjoyment, and reach all ages from young children to senior citizens. They include classes and workshops, guided tours by trained docents and radio, television, and motion picture programs, sponsored by the individual museum and by centralized offices including Fellowships and Grants, Symposia and Seminars, and Elementary and Secondary Education. A highly significant aspect of the education effort involves production each year of several hundred publications including museum catalogues, books, scholarly monographs, articles, papers, the Archives of American Art Journal, and Smithsonian magazine, which is now received by approximately 1.8 million Resident and National Associates. At any given time there are likely to be two to three hundred visiting scholars, scientists and students working throughout the Institution in various collections, laboratories and offices. Finally, as another educational endeavor, the Institution's Office of Museum Programs offers assistance to museums across the country and abroad by conducting museum training courses, producing and distributing audiovisual programs on conservation principles and techniques, and by awarding grants for professional museum training and research.

--Collections acquisitions: The Smithsonian museums acquire works of art, artifacts and specimens, and other objects in three ways: by collecting, by donation and by purchase. Collecting and donation are and will continue to be the major means for acquiring material for the collections. However, donations and gifts of collections, for the most part, do not lend themselves to planned development. If the Institution's research and exhibition programs are to thrive, the collections must grow by thoughtful design. To meet this responsibility and challenge, the Smithsonian seeks to provide special acquisitions funds for the museums. Some Federal funds are requested each year to permit regular planned purchases.

In order to carry out these functions, administration and facilities services units of the Institution provide the required support. The Smithsonian has the responsibility for the maintenance, operation and protection of a large complex of museum and gallery buildings and other facilities. The Institution also provides architectural and engineering services for major repairs, alterations and improvements to the physical plant.

FY 1982 Budget Priorities

The programs proposed in Institution's FY 1982 budget request will contribute to the enjoyment of millions of visitors to Smithsonian museums and those throughout the nation. They also will help to assure the continued intellectual vitality of basic research being conducted at the Smithsonian.

Funding for the continued higher costs of operations consumes a large portion of the requested increase in the Salaries and Expenses Appropriation. These operating requirements include adequate base funding for rent and utilities. The Institution has been successful in holding down rising utilities costs by means of a comprehensive energy management program. Funds also are sought to continue the purchase of storage, laboratory, protection and office equipment for the Museum Support Center (MSC), and additional staff is proposed for the Conservation Analytical Laboratory to continue to prepare for the expanded operations that will become possible at the MSC. Increased funds are proposed to accelerate the Collections Management/Inventory Program, in part to assure that the collections scheduled to be moved to the Center will be inventoried fully prior to the move.

Quadrangle Development is a very high priority in this year's budget request. The proposed Federal resources will be used in conjunction with nonappropriated Trust funds and other sources to construct a permanent home for the Museum of African Art, a center for Eastern art in association with the Freer Gallery of Art, and other public space. These new facilities will be located on approximately 4.2 acres between the Smithsonian Institution Building and Independence Avenue. A design concept which portrays two delicately styled pavilions which provide access to exhibition and other space below grade was approved by the National Capital Planning Commission at its January 8, 1981 meeting. Authorizing legislation for the project will be introduced in the 97th Congress. By providing a place on the Mall for the exhibition of the art of Africa and additional space for the display of Near and Far Eastern art, millions of visitors will be able to gain a greater appreciation of these cultures.

Other resources sought in this budget request that will bring enjoyment to millions of people include funds for the production of important, large exhibitions which will be shown in a Special Exhibits Gallery which currently is being constructed in the National Museum of Natural History/Museum of Man mainly with the help of a private donation. Funds are requested for the Major Exhibition Program which provides centralized support of major history and art exhibitions. There also is emphasis on improving exhibits programs and upgrading and enlarging space for additional exhibitions in several museums. At the Zoo, further construction is scheduled under its Master Plan with the first phase of an innovative exhibit on Aquatic Habitats. This new exhibit will display the diversity of both fresh and salt water life in three temperature zones.

For FY 1982, the Institution wishes to devote new resources to the extension of its services beyond Smithsonian museums. Responding to the desires of the Native American museum community, the existing Native American Program will be expanded in a major way to bring various forms of technical service to Indian, Eskimo and Aleut groups. Additional resources are requested also for the Smithsonian Institution Traveling Exhibition Service to enable it to expand its programming and to hold down the fees for the exhibitions it tours.

Building upon existing research capabilities, significant new resources are proposed that will contribute to the vitality of the staff, develop baseline scientific data and increase knowledge of Smithsonian collections. Among the programs included here are a reestablished Smithsonian Research Awards Program, and projects to further research in space science, astrophysics and environmental studies. Funds are provided for study and research of the Museum of African Art's collections and for studies of jazz and American popular entertainment. The Institution also is proposing to provide additional substance to the Museum of Man which presently exists as part of the National Museum of Natural History. By combining in the future a number of activities concerned with man and his development, a revitalized Museum of Man will present exciting opportunities for scholarship and exhibitions.

There are significant requirements for improvements to the physical plant. Increased funds have been appropriated in the past two years for Restoration and Renovation of Buildings. The Institution's Five Year Prospectus - FY 1982 - FY 1986 has identified needs totaling over \$50 million for such improvements. The proposed request in this FY 1982 budget continues to address restoration and renovation needs.

New resources sought for administration, protection services and facilities management will continue planned programs of improvement in these areas. Emphasis is placed in promoting equal employment opportunity, improving several administrative functions, strengthening the security force, improving architectural and design capabilities and providing for adequate maintenance of buildings and grounds.

The Five Year Prospectus - FY 1982 - FY 1986, approved by the Board of Regents at the January 21, 1981 meeting, outlined the Smithsonian's operational and facilities plans for that period.

For FY 1982, the Institution is requesting the following appropriations:

(Dollars in thousands)

	<u>FY 1981 Appropriation</u>	<u>FY 1981 Supplemental Requirement</u>	<u>FY 1982 Requested Increase</u>	<u>FY 1982 Estimate</u>
Salaries & Expenses	\$117,665	\$5,970	\$13,251	\$136,886
Special Foreign Currency Program	3,650	--	1,850	5,500
Construction & Improvements, National Zoological Park	3,290	--	3,860	7,150
Restoration and Renovation of Buildings	7,539	--	961	8,500
Construction:				
Museum Support Center	5,000	--	-5,000	--
Quadrangle Development	<u>--</u>	<u>--</u>	<u>24,135</u>	<u>24,135</u>
Totals	\$137,144	\$5,970	\$39,057	\$182,171

I. Salaries and Expenses

<u>1980 Actual</u>	<u>1981 Base</u>	<u>1982 Estimate</u>
\$107,497,000	\$123,635,000	\$136,886,000

The requested increase of \$13.2 million consists of \$5.5 million in uncontrollable increases and \$7.7 million in program increases. Uncontrollable increases include projected higher costs in FY 1982 than the costs incurred in FY 1981 for staff, utilities and rental payments, and funds to help compensate for the effects of inflation in nonsalary areas. The program increase of 36 positions and \$7.7 million will promote exhibitions throughout the Institution by providing for expanded exhibits space and increased exhibits program support, encourage basic research, continue collections management efforts including collections inventories and conservation, extend educational programs to a broader public, continue the equipping of the Museum Support Center, and permit the strengthening of management and facilities services functions. The funding is allocated by activities as follows (organizational allocation appears on pages A-2 and A-3):

	<u>FY 1981 Base</u>	<u>Requested Uncontrollable Increase</u>	<u>Requested Program Increase</u>	<u>FY 1982 Estimate</u>
Science	\$43,450,000	\$1,213,000	\$1,844,000	\$46,507,000
History and Art	19,932,000	679,000	854,000	21,465,000
Public Service	2,605,000	73,000	108,000	2,786,000
Museum Programs	9,428,000	276,000	650,000	10,354,000
Special Programs	5,738,000	268,000	2,800,000	8,806,000
Administration	8,915,000	400,000	561,000	9,876,000
Facilities Services	<u>33,567,000</u>	<u>2,620,000</u>	<u>905,000</u>	<u>37,092,000</u>
Totals	\$123,635,000	\$5,529,000	\$7,722,000	\$136,886,000

II. Special Foreign Currency Program

<u>1980 Appropriation</u>	<u>1981 Appropriation</u>	<u>1982 Estimate</u>
\$4,200,000	\$3,650,000	\$5,500,000

This appropriation will allow the Smithsonian to continue a program of grants in those countries where "excess" local currencies are available. Research will be performed in the following areas of Smithsonian Institution interest and competence: archeology and related disciplines; systematic and environmental biology; astrophysics and earth sciences; and museum programs. Funds of \$3,500,000 are sought for the grants program in FY 1982. The Foreign Currency Program awards to Smithsonian employees, which currently are limited to a total of \$500,000, are executed as normal Federal allotments to the individual

bureaus of the Institution for the support of approved employee research projects. Such funds are expended following all appropriate Federal personnel and procurement regulations. The balance of the funds is awarded to applicants whose projects are also selected by a panel of reviewers. The appropriation request also includes \$1,000,000 for a third installment to the forward funded reserve in support of future programs of the American Institute of Indian Studies. An additional \$1,000,000 is included for the international effort organized through UNESCO to restore and preserve the Indus civilization city of Moenjodaro in Pakistan.

III. Facilities Planning, Renovation, Restoration and Construction

<u>FY 1980 Appropriation</u>	<u>FY 1981 Appropriation</u>	<u>1982 Estimate</u>
\$32,100,000	\$15,829,000	\$39,785,000

Construction and Improvements, National Zoological Park (\$7,150,000) - The FY 1982 appropriation request for Construction and Improvements at the National Zoological Park will be used to continue to make progress on the implementation of the approved Master Plan for the improvement of the animal and public facilities and to perform essential renovation, repair and improvement projects at the Rock Creek Park Zoo and at the Conservation and Research Center in Front Royal, Virginia. The Master Plan development scheduled for FY 1982 consists of beginning the construction of an Aquatic Habitat Exhibits which will display the diversity of both fresh and salt water life in three different temperature zones. Zoo funds also are sought to continue building the research accommodations and backup holding space portion of the delicate animal facility at the Front Royal Conservation and Research Center. Resources are included for essential restoration and renovation work both at Rock Creek and Front Royal.

Restoration and Renovation of Buildings (\$8,500,000) - The FY 1982 appropriation request for Restoration and Renovation of Buildings consists of repairs to facades, roofs and terraces of various historic and monumental buildings; the upgrading, including planning and installation, of fire detection and suppression systems; the provision of improved access for the disabled, and the correction of conditions that could be hazardous to the safety and security of the visiting public, staff, and the collections; repairs and improvements to utility systems in several museum and collections storage buildings, including heating, ventilating and air conditioning systems and plumbing and electrical systems; improvements in support of programmatic objectives, mainly at the Smithsonian's outlying facilities; and general repairs and improvements that are required for a variety of purposes.

Construction: Quadrangle Development (\$24,135,000) - Appropriated funds sought in FY 1982 combined with the Institution's nonappropriated Trust funds and other sources are designated for the construction of new facilities in the Quadrangle. The Quadrangle consists of an area of approximately 4.2 acres and is located between the Smithsonian Institution Building and Independence Avenue. The facilities will house a new center for the exhibition and study of Eastern art, the Museum of African Art and will provide additional public space.

Nonappropriated Funds

This budget is presented to explain the use of nonappropriated funds, as well as appropriated funds, for each Smithsonian bureau that receives a Federal appropriation. Information on the sources and application of all Smithsonian operating funds is detailed under Tab D in this budget request.

In addition to the Federal appropriations, the Institution has two major categories of nonappropriated funding. These are the Smithsonian Trust funds and Federal grants and contracts.

The Trust funds are composed of unrestricted and restricted funds. Unrestricted Trust funds (general and special purpose) originate from a variety of sources including endowment and current fund investment income, food service concessions, sales of Smithsonian books, records and other products based on designs and objects in the collections, the Resident and National Associates Programs (including Smithsonian magazine), and the museum shops. In addition, certain bureaus have their own income-producing activities, such as the Theater and Spacearium operations of the National Air and Space Museum. Restricted Trust funds include gifts, grants, endowment and other income designated for specific projects and purposes by the donor. The Freer fund is the largest example in this category, being strictly controlled under the terms of the original bequest for the sole use of the Gallery.

The other source of nonappropriated funding, Federal grants and contracts, is made available to the Smithsonian by Governmental agencies and departments to support specific types of research, educational or other projects which the Smithsonian can undertake as a result of its expertise or its ability to respond quickly to certain kinds of needs.

Gross revenues of nonappropriated Trust funds are expected to continue to grow as in previous years and reach \$98.5 million by FY 1982. Net income, however, is projected to increase only slightly from \$18.4 million in FY 1980 to \$18.7 million in FY 1982 (of which over \$5 million would be for restricted purposes) because of continued inflationary cost increases adversely affecting auxiliary activities.

There are three major purposes to which the unrestricted Trust funds are applied. First, the expenses of the auxiliary activities, such as the Associates program (including the Smithsonian magazine), and the museum shops, are funded from the earned income of these activities. Secondly, central management and administrative service units of the Institution, such as legal counsel, accounting, personnel, supply, budget and others receive Trust fund allotments funded almost entirely from the overhead recovery on grants and contracts administered by the Smithsonian and from administrative fees charged to Trust funded activities. Operating funds also are provided to various units for research and other specific purposes. Finally, a variety of allocations for important Institutional and bureau needs have been made with the approval of the Board of Regents.

This last category has taken on an increasing significance over the last several years as it has had the effect of reducing Federal resource requirements. The most substantial continuing commitment under this category is the \$2 million annual allocation for the Institution's Collections Acquisition, Scholarly Studies and Education Program, first approved by the Board of Regents in FY 1978. Of the \$2 million, an amount of \$1 million is available annually for purchase of objects of outstanding importance to the collections. The Collections Acquisition Program in FY 1980 permitted a joint purchase by the

National Portrait Gallery and the Museum of Fine Arts in Boston of the Gilbert Stuart portraits of George and Martha Washington (\$2.75 million). (Because of the importance of these major art works, additional Institutional funds were used to supplement this acquisition.) A further example of a purchase made with funds provided from the Collections Acquisition Program is the important major art work by Joan Miro entitled "Woman Before an Eclipse With Her Hair Disheveled by the Wind," which was purchased in FY 1981 with Trust funds of \$225 thousand and an equal amount of outside contributions. An additional amount of \$500 thousand is designated for scholarly research projects that do not lend themselves to or are not appropriate for Federal funding. These include multi-disciplinary research projects that can be carried out within and/or between bureaus, and projects that have been awarded external funds, which require matching Trust funds. For example, in FY 1980 funds were provided to investigate the structure of reefs in the Indo-Pacific region and to examine the important relationship of reefs to tropical ecosystems and related species. Developmental research for this project resulted in the "Coral Reef Exhibit" which opened in the National Museum of Natural History/Museum of Man in October 1980. The remaining \$500 thousand of the \$2 million available under this Program is allocated to conduct a wide range of education programs of benefit to the public such as the Museum Senior Outreach Project. This project is designed to provide transportation to museums for senior citizens who would otherwise not be able to visit and share in the museum experience.

Beginning in FY 1979, the Board of Regents approved using an additional \$1,020,000 of the Institution's unrestricted Trust funds for certain programs previously financed with appropriated funds. These consist of the Institution's visiting research and fellowship program and the appropriate Trust fund share of rental costs of administrative units in L'Enfant Plaza, funded in part from rental payments by auxiliary activities occupying space on the Mall. Funds of \$1.4 million are being applied to these programs in FY 1981 and a similar amount is projected for FY 1982. A further amount of \$1 million in unrestricted Trust funds is being reserved for the Quadrangle Development project in FY 1982, in addition to the approximately \$1.9 million that has been designated for initial planning to date and \$1.5 million held in reserve for construction. Also to be supported in part from unrestricted funds, as previously reported to the Congress, is the Museum Support Center construction, toward which \$2.5 million is committed and will be made available during FY 1982 - FY 1984. This amount will be derived from postponing the purchase of conservation equipment (\$750 thousand) and from anticipated proceeds from the sale of the Belmont Conference Center.

After the three major categories of operating expense financed with unrestricted Trust funds are met, the remaining unrestricted income is designated for three purposes. Funds are transferred to the museums and galleries in recognition of their assistance in the planning and carrying out of museum shop, product development and concession programs. These funds, amounting to only a few hundred thousand dollars each year, are used for the general operations of the receiving bureaus. A second designation is for improvements to the physical plant or land acquisitions. Finally, funds permitting, the Institution makes an annual transfer of approximately \$2 million to its endowment for the purpose of providing income for future years.

All projections are monitored closely throughout the year with adjustments to estimates dictated by actual results.

TAB A

SALARIES AND EXPENSES

SMITHSONIAN INSTITUTION

SALARIES AND EXPENSES

Summary of Increase FY 1982

Appropriation, FY 1981		\$117,665,000
Pay Supplemental Base Requirement		<u>5,970,000</u>
Base, FY 1981		\$123,635,000
FY 1982 Request		<u>\$136,886,000</u>
Uncontrollable Increase	\$5,529,000	
Program Increase	<u>7,722,000</u>	
Total Requested Increase		\$ 13,251,000

SMITHSONIAN INSTITUTION
"Salaries and Expenses"
Summary of the 1980 Appropriation and the 1981 and 1982 Estimates

(Dollars in thousands)

Page No.	Unit	1980 Actual		1981 Estimate			1981 Base		1982 Estimate		Analysis of Increase				
		Pos.	Amount	Pos.	Amount	Supplemental	Total	Base Restoration	Total	Pos.	Amount	Pos.	Uncontrolled	Program	
Science															
A-16	Assistant Secretary for Science	7	301	7	321	11	332	-	332	7	340	-	8	-	
A-18	Nat'l Museum of Natural History	505	14,462	505	14,809	845	15,654	73	15,727	505	16,733	-	333	673	
A-26	Astrophysical Observatory	73	5,028	77	5,234	124	5,358	28	5,386	81	5,901	4	208	307	
A-34	Tropical Research Institute	74	2,257	85	2,644	98	2,742	11	2,753	86	3,003	1	122	128	
A-39	Radiation Biology Laboratory	49	1,837	49	1,963	29	1,992	11	2,003	51	2,266	2	77	186	
A-43	National Air & Space Museum	222	5,597	222	6,152	280	6,432	50	6,482	222	6,801	-	199	120	
A-48	Chesapeake Bay Center	21	744	22	799	45	844	5	849	23	1,152	1	28	275	
A-55	National Zoological Park	327	8,521	327	8,748	486	9,234	37	9,271	328	9,568	1	210	87	
A-60	Center for the Study of Man	12	575	12	623	23	646	1	647	12	743	-	28	68	
	Subtotal, Science	1,290	39,322	1,306	41,293	1,941	43,234	216	43,450	1,315	46,507	9	1,213	1,844	
History and Art															
A-65	Ass't Secy for History & Art	9	317	9	328	23	351	3	354	10	380	1	6	20	
A-67	Nat'l Museum of American History	278	7,177	278	7,535	435	7,970	71	8,041	278	8,494	-	233	220	
A-73	Nat'l Museum of American Art	105	3,371	106	3,478	171	3,649	13	3,662	106	4,043	-	131	250	
A-80	Nat'l Portrait Gallery	76	2,442	76	2,584	78	2,662	24	2,686	76	2,857	-	106	65	
A-86	Irishborn Museum	80	2,200	80	2,327	74	2,401	5	2,406	80	2,523	-	92	25	
A-90	Freer Gallery of Art	29	656	30	698	51	749	3	752	31	874	1	20	102	
A-95	Archives of American Art	17	521	17	559	32	591	5	596	17	658	-	20	42	
A-99	Cooper-Hewitt Museum	21	629	22	680	19	699	8	707	23	794	1	42	45	
A-103	Museum of African Art	23	543	24	691	23	714	14	728	25	842	1	29	85	
	Subtotal, History & Art	638	17,856	642	18,880	906	19,786	146	19,932	646	21,465	4	679	854	
Public Service															
A-108	Ass't Secy for Public Service	9	262	10	288	16	304	4	308	10	342	-	6	28	
A-111	Anacostia Neighborhood Museum	19	567	19	697	30	727	7	734	19	756	-	22	-	
A-114	International Exchange Service	5	323	5	227	5	232	3	235	5	247	-	12	-	
A-116	Division of Performing Arts	9	331	10	394	14	408	5	413	10	462	-	13	36	
A-120	Smithsonian Institution Press	28	819	28	850	59	909	6	915	29	979	1	20	44	
	Subtotal, Public Service	70	2,302	72	2,456	124	2,580	25	2,605	73	2,786	1	73	108	

SMITHSONIAN INSTITUTION
"Salaries and Expenses"

Summary of the 1980 Appropriation and the 1981 and 1982 Estimates

(Dollars in thousands)

Page No.	Unit	1980 Actual		1981 Estimate			Base Restoration ²		1982 Estimate		Analysis of Increase			
		Pos.	Amount	Pos.	Amount	Supplemental ¹	Total	Pos.	Amount	Pos.	Uncontrollable Program			
											Pos.	Amount		
Museum Programs														
A-125	Asst. Secy for Museum Programs	90	2,316	91	2,376	140	2,516	15	2,531	91	2,702	-	64	107
A-131	Office of the Registrar	4	115	4	119	9	128	-	128	5	156	1	3	25
A-134	Conservation Analytical Laboratory	22	654	29	886	29	915	17	932	33	1,073	4	37	104
A-138	Smithsonian Institution Libraries	99	2,730	100	2,904	168	3,072	15	3,087	100	3,430	-	121	222
A-143	Office of Exhibits Central	47	1,259	47	1,284	88	1,372	9	1,381	47	1,409	-	28	-
A-145	Traveling Exhibition Service	6	161	6	163	12	175	-	175	8	349	2	10	164
A-150	Smithsonian Archives	13	367	13	360	24	384	1	385	13	424	-	11	28
A-153	National Museum Act	3	794	3	803	3	806	3	809	3	811	-	2	-
	Subtotal, Museum Programs	284	8,396	293	8,895	473	9,368	60	9,428	300	10,354	7	276	650
Special Programs														
A-157	American Studies & Folklife Progs.	4	447	5	499	35	534	-	534	5	591	-	21	36
A-161	Int'l Environmental Science Prog.	2	408	2	468	33	501	1	502	2	626	-	24	100
A-165	Academic & Educational Programs	18	478	19	564	39	603	3	606	19	649	-	18	25
A-170	Collections Management/Inventory	-	543	-	556	26	582	-	582	-	792	-	10	200
A-176	Major Exhibition Program	-	-	-	750	-	750	-	750	-	1,000	-	-	250
A-180	Museum Support Center Equipment	-	195	-	2,711	-	2,711	-	2,711	-	4,495	-	195	1,589
A-185	Research Awards Program	-	-	-	-	-	-	-	-	-	300	-	-	300
A-189	Native American Program	1	35	1	53	-	53	-	53	2	353	1	-	300
	Subtotal, Special Programs	25	2,106	27	5,601	133	5,734	4	5,738	28	8,806	1	268	2,800
A-194	Administration	257	7,781	261	8,366	469	8,835	80	8,915	265	9,876	4	400	561
Facilities Services														
A-203	Office of Design and Construction	35	948	36	1,249	58	1,307	29	1,336	37	1,465	1	31	98
A-206	Office of Protection Services	555	10,471	563	10,632	779	11,411	26	11,437	571	12,107	8	240	430
A-210	Office of Plant Services	321	18,315	326	20,293	462	20,755	39	20,794	327	23,520	1	2,349	377
	Subtotal, Facilities Services	911	29,734	925	32,174	1,299	33,473	94	33,567	935	37,092	10	2,620	905
	GRAND TOTAL	3,475	107,497	3,526	117,665	5,345	123,010	625	123,635	3,562	136,886	36	5,529	7,722

¹The base requirement for FY 1981 is \$5,970,000 for legislated and wage pay raises. This amount is offset by a total reduction of \$625,000 consisting of:
(a) \$575,000 related to the FY 1981 hiring limitation; (b) \$25,000 in travel savings; and (c) \$25,000 for consultant services.

²restores one-time FY 1981 reductions of \$625,000.

SMITHSONIAN INSTITUTION
FY 1982 UNCONTROLLABLE INCREASES

Additional funds are sought to finance costs that are beyond the control of the Institution. These increases result from law, prevailing practice of wage setting, changes in utilities, postage and communications costs, and higher costs of supplies and services due to inflation. A total of \$5,529,000 is requested for these uncontrollable increases:

Necessary Pay and Related Benefits.....	\$1,663,000
Utility Rate Increases.....	1,365,000
Postage Rate Increase.....	185,000
Telephone Rate Increase.....	275,000
Fuel Oil Rate Increase.....	75,000
Rental Increases.....	260,000
Inflation.....	1,706,000
Total	<u>\$5,529,000</u>

NECESSARY PAY AND RELATED BENEFITS - An amount of \$1,663,000 is required for personnel compensation and benefits for the projected higher costs in FY 1982 of FY 1981 staff. These increases are provided to employees as a result of within-grade and merit pay increases(\$1,301,000), legislated pay raises (\$199,000), and workers' compensation payments (\$163,000). These anticipated increases are calculated by a position-by-position analysis taking into consideration approved new hires in the current year, savings from turnover and from filling vacancies at lower grades when possible. Absorbing these costs from currently available funds seriously impairs approved program activities. For example, approximately one workyear of approved employment is lost for every \$20,000 that must be applied to these costs from funds currently available for salaries and benefits. Moreover, if other object class funds must be applied to these costs employees are left without adequate supplies and equipment essential to sustain current level programs and functions. The additional personnel costs are attributable to the following externally imposed factors:

(1) Within-grade Step and Merit Pay Increases - Necessary pay funding of \$1,301,000 is required in FY 1982 for within-grade step and merit pay increases. For General Schedule employees, such increases are required by 5 U.S.C. 5335. Wage employees are covered by law and prevailing practice. In any fiscal year, the cost of within-grade increases is substantial. These increases include the part year cost of new actions in the current year, as well as the cost of annualizing step increases granted in the previous fiscal year.

The General Schedule portion of the request amounts to \$891,000. There are approximately 2,650 General Schedule employees of whom approximately 1,500 are scheduled to receive within-grade increases. The Wage portion amounts to \$193,000. There are approximately 900 Wage employees of whom approximately 300 are scheduled to receive within-grade increases.

The Merit Pay portion of the request amounts to \$217,000. These increases, required under the provisions of the Civil Service Reform Act of 1978, were calculated following guidelines issued by the Office of Personnel Management (OPM). The amount requested for Merit Pay replaces the amount for within-grade increases that would have been paid to Merit Pay employees under the conventional step system, and the amount for quality step increases that OPM estimates would have been paid to Merit Pay employees. Funding for the Merit Pay portion of the annual comparability adjustment will be included in the Smithsonian's FY 1982 pay supplemental request.

(2) Annualization of Legislated Pay Raises - Funds in the amount of \$199,000 are requested to annualize the General Schedule and Wage pay increases effected in FY 1981.

In accordance with P.L. 91-656, General Schedule salary scales are adjusted each October to make them comparable to rates paid for similar work in private industry. The total annual cost of the raise that went into effect October 5, 1980, is estimated to be \$4,920,000. A supplemental appropriation of \$4,276,000 is being sought in FY 1981. (The supplemental appropriation sought for FY 1981 reflects one-time absorptions totaling \$537,000; the full base requirement amounts to \$4,813,000 and is included in the FY 1982 estimates.) The balance of \$107,000 is requested in FY 1982 to provide full year funding.

Wage raises are granted under the authority of 5 U.S.C. 5341. Prevailing practices call for Wage pay scales to be reviewed by a Wage Finding Authority in each geographic area. In the Washington area, this has resulted in Wage employees receiving a pay raise in October of each year. Smithsonian employees in New York, Maryland, Virginia, Arizona and Panama traditionally receive similar Wage increases at other times. However, due to the Wage pay limitation in effect for FY 1980, procedures established for FY 1981 appropriated Wage schedules required an initial pay adjustment for Wage employees in all geographic areas except Panama effective October 1, 1980. This adjustment is in addition to the regular pay adjustment issued pursuant to a Wage survey for each Wage area schedule with an effective date in FY 1981. The sum of the two pay adjustments for each geographic area or Wage schedule cannot exceed the rate in effect on September 30, 1980 by more than 9.1 percent. The total annual cost for these raises is estimated to be \$1,249,000. A supplemental appropriation of \$1,069,000 is being sought in FY 1981. (The supplemental appropriation sought in FY 1981 reflects one-time absorptions totaling \$88,000; the full base requirement amounts to \$1,157,000 and is included in the FY 1982 estimates.) The balance of \$92,000 is requested in FY 1982 to provide full year funding.

(3) Workers' Compensation - An amount of \$163,000 is required to meet the provisions of section 8147(b) of Title 5, U.S.C. as amended on April 21, 1976 by P.L. 94-273. This law provides for payments to be made to employees for injuries and to their families in cases where work accidents result in employees' deaths. These payments are determined and made by the United States Department of Labor's Employment Standards Administration, which subsequently bills agencies for costs incurred for their employees. The Institution continues to pursue its Accident Safety Program administered by the Office of Protection Services. This Program includes employee training in safe working environments and supports a safety staff whose duties include identifying and eliminating potential accident hazards. The FY 1982 bill for the Smithsonian Institution totals \$491,000. (This bill covers the actual expenses incurred for the period July 1, 1979 through June 30, 1980.) With an amount of \$328,000 in the Institution's base for workers' compensation, additional funds totaling \$163,000 are requested.

The requested FY 1981 pay supplemental appropriation totaling \$5,345,000 is distributed by organizational unit as shown on pages A-2 and A-3.

UTILITY, POSTAGE AND TELEPHONE INCREASES - Currently, a base of \$11,035,000 is available to fund the costs of electricity, steam, gas, fuel oil, postage, and telephones. An additional amount of \$1,900,000 is sought in FY 1982 to cover the projected increased cost of these items.

The following table depicts actual and anticipated use and cost of the major components of the utilities account between FY 1979 and FY 1982 and summarizes the projected base shortage in each component between the FY 1981 appropriation and the estimated costs for FY 1982.

ANALYSIS OF UTILITIES COSTS
FY 1979 - FY 1982

Fiscal Year	ELECTRICITY			STEAM			GAS		
	Use	Unit	Cost	Use	Unit	Cost	Use	Unit	Cost
	Millions of KWH	Average per KWH	\$1,000s	Millions of lbs.	Average Per 1,000 lbs.	\$1,000s	Millions of Cu. Ft.	Average Per Cu. Ft.	\$1,000s
1979 Actual	90.4	.0431	3,897	269.6	8.90	2,400	.956	.3149	301
1980 Estimated									
Actual	83.7	.0488	4,085	228.1	11.24	2,564	.907	.3947	358
1981 Estimate	86.0	.0628	5,400	270.0	14.00	3,780	.956	.4184	400
1982 Estimate	86.0	.0674	5,800	270.0	15.00	4,050	.956	.4707	450
1982 Estimate			5,800			4,050			450
1981 Base			<u>5,777</u>			<u>2,808</u>			<u>350</u>
Base Shortage, Electricity			\$ 23	Base Shortage, Steam			Base Shortage, Gas		
							\$1,242		
							\$100		

The estimates for FY 1981 and FY 1982 are based upon past usage data, historical weather patterns, current and planned use of space in buildings, available information on rates from utility companies, energy conservation goals, and rate increases that have resulted from or are considered likely as a result of the national and international energy situation.

The major component (\$1,242,000) of the proposed increase is for steam. Although steam usage for FY 1982 is estimated to approximate actual usage in FY 1979, costs have risen steadily each year. In August 1980, the General Services Administration (GSA) notified the Smithsonian that although FY 1980 steam sales were down by 17 percent from FY 1979 as a result of warmer weather and improved energy conservation measures, users should expect significantly higher steam rates in FY 1981 and FY 1982. The higher steam rate has resulted both from higher costs incurred by GSA for fuel oil, coal and natural gas which are necessary to generate steam, and GSA's need to recuperate revenue losses resulting from declining sales. For electricity, consumption between FY 1980 and FY 1982 is projected at a relatively constant level (4.9 percent less than in FY 1979), even though the consumption estimates include usage for new facilities at the National Zoological Park (including the Beaver Valley Complex, the Great Ape House, and the renovated Reptile and Small Mammal Houses) and the addition of the Museum of African Art. In FY 1981 and FY 1982, increased electricity costs are projected due to the conversion in May 1980 to a new "time of day" rate structure and anticipated annual rate increases. The "time of day" rate structure imposes a premium charge for consumption between the hours of 12 noon and 8:00 p.m. on weekdays. For gas, consumption in FY 1982 also is estimated to approximate actual usage in FY 1979. Increased costs for gas result from annual rate increases approved by the Public Service Commission and the effects of fuel adjustment costs which are passed on to users by the utility companies.

Additionally, an increase of \$535,000 is needed to cover projected increased costs of fuel oil and water (\$75,000); postage (\$185,000); and telephones (\$275,000), resulting from anticipated cost increases for operation of the Federal Telecommunications Network Service (FTS) administered by the General Services Administration. The Smithsonian continues to limit telephone costs by routing all service and equipment requests through a central telecommunications office to assure that only essential services and equipment are obtained.

ENERGY CONSERVATION EFFORTS - In order to manage use of energy in the most efficient manner possible consistent with proper environmental conditions for the collections, the Institution has established a comprehensive energy management program. This program concentrates on promoting systems efficiency and conservation. (The most significant energy savings will be realized by upgrading the heating, ventilating and air conditioning systems in Smithsonian facilities. Several comprehensive energy surveys will be initiated in FY 1981 to assist in the planning of these major improvements. Plans to develop efficient utilities systems are addressed in the Construction section of the budget.) Efforts to promote energy conservation include the operation of a complex computerized power management system which has resulted in substantial energy cost avoidance. This system minimizes costly peak demand rates by cycling motors on and off on a prescheduled basis, and when necessary, by selectively shutting down equipment. Monitoring systems have assisted greatly in the Institution's energy conservation efforts by assuring that all installed utilities function efficiently.

Other efforts to achieve more economical and efficient energy use include reduction in lighting levels in work and non-public spaces and, whenever possible, in public areas; operation of heating and air conditioning systems at minimum levels required to prevent damage to the collections; shut-down of fans and other heavy users of electricity during non-public hours; establishment of an awards program to reward employees who submit original suggestions that are put into effect to save energy; and greater attention to energy conservation in the design of new facilities such as the nearly completed National Zoological Park's Great Ape Complex, which will have a complete solar powered hot water system.

Although weather, numbers of visitors and new facilities all affect energy consumption, a measure of the success of the Institution's conservation efforts can be seen in the fact that consumption of electricity, steam and gas is expected to be relatively constant between FY 1979 - FY 1982 despite the addition of new facilities. Since FY 1978, the Institution has avoided an estimated \$1,500,000 in utilities costs as a result of the energy conservation measures described above. For example, the total steam consumed in FY 1980 was 41,500,000 pounds less than that consumed in FY 1979, a decrease of approximately 15 percent. This amount is sufficient to supply steam to the Air and Space Building for nearly two years under normal weather conditions. Total electrical consumption in the major museum buildings has been reduced 6,700,000 kilowatt hours (7 percent) during the same period, an amount equivalent to that required for the Renwick Gallery for all of FY 1980.

RENTAL SPACE - This item consists of the proportionate Federal rental space costs of administrative activities located at L'Enfant Plaza, the Smithsonian Institution Service Center at 1111 North Capitol Street and the Smithsonian Oceanographic Sorting Center at the Washington Navy Yard. Under the terms of these lease agreements, the Smithsonian is required to assume additional costs

for operating expenses brought about by sharp increases in maintenance and utilities costs and real estate taxes. An amount of \$260,000 is required to cover higher Federal space rental costs at these locations which are estimated to total approximately \$1,200,000 in FY 1982.

Additionally, authority is being sought to allow the Institution to enter into a lease for a term not to exceed ten years at the Smithsonian Institution Service Center at 1111 North Capitol Street. In 1975, the Smithsonian began leasing this 160,000 square foot warehouse type building which consolidates a number of shipping and receiving, production, storage and other distribution activities formerly housed inadequately in three separately leased facilities scattered across the city. The building currently is leased on a year to year basis by exercising consecutive one year options. The four remaining one year options will expire in September 1984. This method of leasing entitles the lessor to a full Consumer Price Index (CPI) escalation of the base rental each year, instead of escalation only for actual increased costs experienced as most multi-year leases allow.

Recently, the North Capitol Street building was purchased by local investors who are seeking from the Smithsonian a lease term of ten years. As an alternative, the investors would use this valuable site to construct a building of much greater revenue potential. Without authority to enter into negotiation of a long-term lease in advance of the expiration date of the present lease arrangement, it is expected that the Smithsonian will be asked to vacate this building in 1984.

The Smithsonian has no current plans to vacate this building in the foreseeable future, and could do so only at considerable expense. In order to insure Smithsonian occupancy for a minimum of ten years, the Institution requests authority to contract in advance of receipt of appropriations for the use of this property. Such authority would enable the Smithsonian to negotiate a lease which would be more cost beneficial than the present agreement with annually imposed rent increases based on the CPI adjustments. The Smithsonian would seek to include standard tax and operating cost escalators only.

INFLATION - Resources totaling \$1,706,000 are requested to help offset the cumulative and anticipated higher costs to the Institution as a result of inflation. The amount requested is calculated on the basis of seven percent of the total nonsalary object classes of expense estimated for FY 1981, excluding utilities and rent.

As with other museums and research organizations, inflationary increases represent significant costs that have the cumulative effect of seriously diminishing exhibitions, research, collections management, collections acquisition, and education and public orientation programs, as well as facilities management, protection services and administrative services. When possible, items of expense are eliminated, methods changed, or funds reallocated from other areas to help offset the effects of inflation but such measures are limited or of a temporary benefit as prices continue to rise. The result of inflation, therefore, is equivalent to a significant cut each year to the bases of all the Institution's approximately 60 organizational units with a consequent reduction in the quality of Smithsonian's programs.

Cost increases affecting the Smithsonian's main program areas continue to have a severe impact on the Institution's ability to carry out its programs as they were intended. One such area is exhibitions. Materials used to mount exhibitions are becoming increasingly more costly as illustrated by the following table.

EXHIBITS SUPPLIES

<u>Item</u>	<u>FY 1978</u> <u>Unit Cost</u>	<u>FY 1981</u> <u>Unit Cost</u>	<u>Percentage Increase</u> <u>FY 1978 - FY 1981</u>
Paint, white latex - 1 gal.	\$ 5.15	\$ 11.48	123 percent
300 W bulb - case	58.00	120.00	107 percent
Plexiglas - 4 x 8 - 1/8"	26.24	46.40	77 percent
Plywood - 4 x 8 sheet - 1/2"	13.00	17.54	35 percent
2 x 4s - 16 ft.	4.65	6.06	30 percent
Drywall - 4 x 8 sheet - 1/2"	3.25	4.02	24 percent
Pine - per bd. ft.	1.65	2.05	24 percent
Plywood - 4 x 8 sheet - 3/4"	18.95	23.36	23 percent
Shellac - 1 gal.	11.00	12.59	14 percent

Efforts are made to lessen the increasing costs of exhibit preparation. These include simplifying the manner of presentation and having the work done by Smithsonian staff whenever possible rather than by outside contractors. Exhibit cases and other structures are modified and reused whenever possible. However, some exhibitions require custom designed pedestals, cases, platforms, and special security items all of which contribute to increased costs.

Inflationary cost increases also are evident in research related expenses such as scientific equipment and supplies. Discussions with major suppliers indicate that inflationary increases of 12-14 percent will occur for contractual services for maintaining specialized scientific equipment. Silver nitrate, essential in the carbon dating process, has increased 151 percent in price over a 14 month period as evidenced by the rise in cost from \$363 per 500 grams in May 1979 to \$913 per 500 grams in July 1980. Most chemicals used in the conservation laboratories have increased in cost by as much as 30 percent compared to last year's prices. The following chart gives prices of additional items purchased regularly.

RESEARCH AND SCIENTIFIC SUPPLIES AND CONTRACTS

<u>Item</u>	<u>FY 1976</u>	<u>FY 1979</u>	<u>FY 1981</u>	<u>Percentage Increase</u> <u>FY 1976 - FY 1981</u>
Platinum, Wire 2 ft.	--	\$27.00	\$ 53.20	97 percent
X-ray Film -				
14" x 17" /100 sh	--	94.62	179.90	90 percent
Kodak Film for Scanning				
Electron Microscope	\$8.99	10.33	15.60	74 percent
Electron Microscope				
maintenance/year	2,964.00	3,948.00	5,064.00	71 percent
Dry Ice - 1,000 lbs.	47.50	59.00	79.50	67 percent
Gold Wire - 2M	--	19.50	31.00	59 percent
Microscope slides/gross	--	5.27	7.06	34 percent
Tektronix 7313				
Oscilloscope	--	3,890.00	4,860.00	25 percent
Beckman L5-65				
Ultracentrifuge	--	16,200.00	19,370.00	20 percent
Microscopes				
	Each order varies due to type and accessories; vendors quote 15 percent increase per year.			

Air travel costs have increased dramatically in the past year, mainly due to the price increases of aviation fuel. Travel is necessary for the Institution's basic research programs; it also is essential for work related to the preparation of exhibitions, purchases for the collections, participation in scholarly seminars and meetings and other educational endeavors. The Smithsonian uses the contract fares developed by GSA whenever possible. The following list of round trip fares illustrates the enormous price increases between June 1979 and January 1981; domestic air fares are expected to continue to increase approximately five percent each month.

ROUND TRIP COACH AIR FARES FROM WASHINGTON, D.C.

<u>Destination</u>	<u>June 1979</u>	<u>January 1981</u>	<u>Percentage Increase FY 1979 - FY 1981</u>
Los Angeles	\$ 446	\$ 836	87 percent
Panama	339	622	83 percent
Boston	130	206	58 percent
Nepal	2,026	3,000	48 percent
Manus, Brazil	1,000	1,175	18 percent

The cost of books and journals, for which the Smithsonian Institution Libraries projects expenditures of \$500,000 in FY 1981, has increased significantly over the past four years. Since a large quantity of professional literature is purchased from abroad, the declining value of the United States dollar worsens inflationary pressures. Publication costs, essential to scientific research as well as to exhibition and educational programs, also have been rising steadily. For example, the cost of printing scientific series publications has risen from \$301,000 in FY 1979 to \$334,000 in FY 1980 for an equal number of manuscripts, an increase of 11 percent. These publications, the products of research performed by Smithsonian scientists, are disseminated to colleges, universities, libraries, and other museums.

Collections management programs are affected by the steady price increases of such items as microfilming and microfilm supplies, shelving, storage cases, and insect drawers and trays. For example, the cost of insect trays has risen 134 percent over the last four years. The cost of acid-free folders used to prevent the deterioration of paper has increased by 22 percent. Similar dramatic price increases are observed in the purchase of other materials used for archival purposes. The following chart gives further examples of inflationary cost increases in collections management supplies.

COLLECTIONS MANAGEMENT SUPPLIES

Polyethylene bags for storing specimens:

4" x 4", per 1,000	- 1978:	\$12.50	
	1980:	53.45	328 percent increase
6" x 6", per 1,000	- 1977:	18.77	
	1980:	69.70	271 percent increase
8" x 8", per 1,000	- 1977:	28.00	
	1980:	62.00	121 percent increase

Herbarium case for storing specimens:

per unit	- 1976:	283.00	
	1980:	436.00	54 percent increase

Blotting paper for drying botanical specimens:

100 sheets	- 1978:	11.55	
	1980:	15.35	33 percent increase

Storage cases for specimens:

per unit	- 1976:	166.25	
	1980:	203.50	22 percent increase

The significantly higher cost of transporting objects is having a severe effect on exhibitions, collections acquisition and research programs. Since December 1979, there have been two rate increases which have brought commercial shipping prices up by 20 percent. In July 1979, the cost was \$2,345 for a van to transport exhibition items from Washington, D.C. to Chicago. This identical service was \$2,810 in November 1980, a 20 percent increase in cost. In addition, air freight charges have increased by eight percent over FY 1979.

The National Zoological Park continues to feel the impact of inflationary increases in the cost of feeding the animal collection. It is estimated that \$311,000 will be expended in FY 1981 for animal food. The price of some food items has increased as much as 80 and 100 percent over FY 1979. Several measures are being taken to circumvent these inflationary pressures. When possible a staff nutritionist adjusts the diets of animals substituting less expensive items for more expensive ones. However, the special dietary requirements of some animals do not allow for food substitutions. Also, the Zoo grows a large portion of its own hay and alfalfa at a considerable cost savings.

The Institution's facilities management, protection services and administrative functions also continue to feel the effects of inflation. For example, equipment maintenance costs for the Office of Computer Services have increased 25 percent in the past year. In addition, one vendor which formerly offered a 20 percent discount on maintenance charges, no longer gives a discount. Computer maintenance costs are estimated to be \$150,000 for FY 1981. Paper used to print computerized reports has increased in cost by 24 percent over FY 1980 prices. The cost of uniform cleaning services for the Office of Protection Services has risen from \$38,000 in FY 1979 to an estimated \$45,000 in FY 1981, an increase of 18 percent.

The chart below lists price increases of everyday cleaning items, the cumulative impact of which can alter budget planning significantly.

MAINTENANCE ITEMS

<u>Item</u>	<u>FY 1978</u>	<u>FY 1981</u>	<u>Percentage Increase (inflation rate) FY 1978 - FY 1981</u>
Sponges, each	\$.23	\$.86	274 percent
Mop wringers, each	8.50	18.50	118 percent
Detergent, drum	176.14	235.18	34 percent
Cake hand soap, case	19.50	25.50	31 percent
Floor wax, drum	284.63	349.80	23 percent
Push brooms, each	2.70	3.10	15 percent

In view of these inflationary pressures, the Institution's request for a seven percent increase of the nonsalary expenses is a modest one. Yet, such an appropriation will be an important and essential step in trying to maintain the Smithsonian's programs and support activities at a level approximating current effectiveness.

NECESSARY PAY
FY 1982

(Dollars in thousands)

<u>UNIT</u>	<u>Within Grades & Merit Pay</u>	<u>Annualization of Raises</u>		<u>Workers' /1 Compensa- tion</u>	<u>Total</u>
		<u>GS</u>	<u>Wage</u>		
Assistant Secretary for Science.....	3	-	-	-	3
National Museum of Natural History/ Museum of Man.....	188	15	4	-	207
Smithsonian Astrophysical Observatory....	37	4	10	-	51
Smithsonian Tropical Research Institute..	35	28	5	-	68
Radiation Biology Laboratory.....	18	1	2	-	21
Chesapeake Bay Center.....	13	1	1	-	15
National Air and Space Museum.....	83	4	4	-	91
National Zoological Park.....	91	4	17	-	112
Center for the Study of Man.....	3	-	-	-	3
Assistant Secretary for History and Art..	5	-	-	-	5
National Museum of American History.....	102	7	4	-	113
National Museum of American Art.....	51	3	1	-	55
National Portrait Gallery.....	35	2	1	-	38
Hirshhorn Museum and Sculpture Garden....	31	1	2	-	34
Freer Gallery of Art.....	13	1	-	-	14
Archives of American Art.....	11	1	-	-	12
Cooper-Hewitt Museum.....	10	-	10	-	20
Museum of African Art.....	12	1	-	-	13
Assistant Secretary for Public Service...	5	-	-	-	5
Anacostia Neighborhood Museum.....	8	1	-	-	9
International Exchange Service.....	2	-	-	-	2
Division of Performing Arts.....	5	1	-	-	6
Smithsonian Institution Press.....	14	1	-	-	15
Assistant Secretary for Museum Programs..	31	1	5	-	37
Office of the Registrar.....	2	-	-	-	2
Conservation Analytical Laboratory.....	18	1	-	-	19
Smithsonian Institution Libraries.....	41	3	-	-	44
Office of Exhibits Central.....	17	1	1	-	19
Smithsonian Traveling Exhibition Service.	2	-	-	-	2
Smithsonian Archives.....	6	1	-	-	7
National Museum Act.....	2	-	-	-	2
American Studies and Folklife Programs...	4	1	-	-	5
International Environmental Science Prog.	3	-	-	-	3
Academic and Educational Programs.....	10	1	-	-	11
Collections Management/Inventory Program.	1	-	-	-	1
Administration.....	135	8	1	163	307
Office of Design and Construction.....	19	1	-	-	20
Office of Protection Services.....	158	12	1	-	171
Office of Plant Services.....	77	1	23	-	101
Total	1,301	107	92	163	1,663

/1 A consolidated bill for Workers' Compensation is paid each year by the Office of the Treasurer rather than being charged to bureaus and offices.

SCIENCE ACTIVITY

Summary and Highlights of Proposed Increases

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	1,290	39,322	86	2,623	23	2,830	15	1,166	229	12,495
FY 1981 Base	1,306	43,450	82	2,928	29	2,194	4	904	270	16,008
FY 1982 Estimate	1,315	46,507	80	3,141	28	2,358	3	617	257	17,066

*FTP = Full-time permanent positions

Analysis of Increase (Federal Request)

Necessary Pay.....571
Inflation.....642
Program Funds.....1,844

The FY 1981 base for all units in the Science Activity totals 1,306 positions and \$43,450,000. A program increase of nine positions and \$1,844,000 is requested for FY 1982. Necessary pay of \$571,000 is required for existing staff and an amount of \$642,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

The resources sought for FY 1982 will be applied mainly to strengthen the ongoing research programs at the various science museums and research facilities. Additionally, a major emphasis will be placed on improving significantly exhibit space in the National Museum of Natural History/Museum of Man. Additional funds are sought also for collections management, equipment and facilities management and other purposes.

Building upon existing research capabilities and expertise, a total increase of two positions and \$645,000 is sought consisting of: two positions and \$166,000 for the Radiation Biology Laboratory (RBL) to undertake a project to determine the biological effects of observed changes in ultraviolet energy on plant growth; \$90,000 for the National Air and Space Museum (NASM) to further its research efforts in space science and exploration; and \$150,000 for the Chesapeake Bay Center for Environmental Studies (CBCES) to reestablish its automated watershed monitoring program. Also included is \$50,000 for the Smithsonian Astrophysical Observatory (SAO) to expand research in solar physics; and \$64,000 for the National Museum of Natural History/Museum of Man (NMNH/MOM) to accelerate its baseline studies on economically important insects. The NMNH/MOM is seeking \$125,000 to strengthen the program of the developing Museum of Man which will in the future combine a number of the Institution's activities related to man and his development.

For research support, a further increase of four positions and \$370,000 is requested. Of these resources, two positions and \$160,000 will enable SAO to establish a permanent X-ray laboratory and test facility; one position and \$90,000 are for the CBCES to establish a permanent data processing staff and

improve existing computer capabilities at the Center. Funds of \$72,000 will be used to increase base funds available for publications at the NMNH/MOM (\$35,000) and at the Smithsonian Tropical Research Institute (STRI) (\$37,000). Also for research support, RBL needs an amount of \$20,000 to upgrade its magnetic card typewriter used in the production of scientific manuscripts, and STRI requires one position and \$15,000 for a diving safety officer who will assist scientists undertaking marine research. Finally, under research support, the National Zoological Park (NZP) is requesting a sum of \$13,000 to upgrade research equipment.

For exhibitions, the NMNH/MOM is seeking a total of \$433,000 of which \$243,000 will be used for exhibits programs in its new Special Exhibits Gallery which currently is being constructed mainly with funds provided by a private donation, and \$190,000 will enable the acceleration of the Museum's program of upgrading the permanent exhibits.

In the collections management area, the National Anthropological Film Center requires an additional amount of \$68,000 for the indexing and cataloguing of its growing film collection. The NZP also is requesting \$15,000 to provide for an additional animal keeper and the NMNH/MOM is requesting \$16,000 to support a shipping clerk position.

In the category of equipment and facilities management, an increase of \$230,000 is sought. Of this amount, \$40,000 will provide adequate support to newly constructed facilities at the Zoo; \$30,000 will be used for maintenance services at NASM; and \$26,000 will allow STRI to obtain the services of an electrician and defray higher utilities costs. Four organizations require additional funding for a vehicle and equipment replacement program: NZP (one position and \$19,000); CBCES (\$35,000); SAO (\$30,000); and STRI (\$50,000).

Finally, SAO is requesting two new positions and \$67,000. One of these positions and \$42,000 are for a safety specialist who is required to assure that SAO's laboratory equipment meets all pertinent fire and safety standards. The second position and \$25,000 are for a bus driver/mechanic who is needed to accommodate the increasing demand for public access to the Mt. Hopkins Observatory.

The sources and uses of nonappropriated Trust funds are explained individually for each line-item in the Science Activity.

OFFICE OF THE ASSISTANT SECRETARY FOR SCIENCE

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	7	301	--	78	--	1	1	94	3	173
FY 1981 Base	7	332	--	51	--	30	1	88	3	204
FY 1982 Estimate	7	340	---	52	---	32	1	69	3	235

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	7	0	7
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	233	3	236
12 Personnel Benefits.....	22		22
21 Travel & Trans. of Persons.....	15	2	17
23 Rent, Comm. & Utilities.....	5	1	6
25 Other Services.....	48	1	49
26 Supplies and Materials.....	9	1	10
Total	<u>332</u>	<u>8</u>	<u>340</u>

Analysis of Increase

Necessary Pay.....	3
Inflation.....	5
Program Funds.....	0

ABSTRACT - This office is responsible for planning, coordinating, and reviewing the progress of the 14 science bureaus and programs within the Institution. No program increase is requested for FY 1982. Necessary pay in the amount of \$3,000 is required for existing staff and an amount of \$5,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Office of the Assistant Secretary for Science advises and assists the Secretary in planning, implementing and reviewing the progress of Smithsonian science programs. The bureaus and other activities reporting to the Assistant Secretary for Science are the National Museum of Natural History/ Museum of Man, the Astrophysical Observatory, the Tropical Research Institute, the Radiation Biology Laboratory, the Chesapeake Bay Center for Environmental Studies, the National Air and Space Museum, the National Zoological Park, the

Center for the Study of Man, the Office of Fellowships and Grants, the Office of Biological Conservation (included in this line item), the Fort Pierce Bureau, the International Environmental Science Program and the proposed Research Awards Program justified in the Special Programs section of the budget on pages A-185 - A-188. Additionally, this Office provides the Institution's liaison with national and international science organizations and representation on national and international science boards and commissions.

Office of Biological Conservation - This central office, composed of two staff members, serves as an extension of the Office of the Assistant Secretary for Science. It is responsible for coordinating the Institution's activities in conservation and for developing a program which will assist public understanding of the conditions in our changing environment. Among its concerns is the status of current national and international efforts devoted to conserving plant and animal species. This includes keeping abreast of the educational and legislative programs associated with these efforts. The Office also functions as a liaison to various governmental and non-governmental organizations in the United States and abroad.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by an annual allotment and are used almost entirely to support two significant international foundations which operate field research stations used by Smithsonian staff members, as well as by the world community. The Seychelles Island Foundation operates the former Royal Society station on the Island of Aldabra, located in the Indian Ocean, where biological research is conducted (projected expenditures of \$15,000 in FY 1981 and FY 1982). Support is continuing in FY 1981 and FY 1982 for the Charles Darwin Foundation which operates a research station in the Galapagos Isles where biological research also is conducted (projected expenditures of \$30,000 in FY 1981 and FY 1982). As a result of the unique location of both of these research sites and the collaborative nature of these operations with the host country, Smithsonian support facilitates the continued use of these areas for the research community at large. The FY 1981 and FY 1982 figures also include projected expenditures from the Walcott Fund for geological research in natural history, shown here since they are administered by this Office (estimated expenditures of \$30,000 in FY 1981 and \$32,000 in FY 1982).

Restricted Funds - Funds have been provided from the World Wildlife Fund for the specific support of an ecological project in Nepal relating to the study and conservation of the tiger and its habitat (estimated expenditures of \$25,000 in FY 1981). Restricted funds also are provided in the form of restricted endowments which specify the use of the donation or bequest and of gifts and foundation grants provided by individuals, organizations or corporations for specific purposes. For example, the International Union for the Conservation of Nature and Natural Resources provided funds to identify and describe the habitats of the endangered plant species of Latin America as part of a global effort to forestall the destruction of plant species mainly in tropical regions (estimated expenditures of \$24,000 in FY 1981 and \$26,000 in FY 1982). The FY 1981 and FY 1982 figures include projected expenditures which will be made by organizations within Science, mostly in the National Museum of Natural History/ Museum of Man; these are shown here since they are administered by this Office.

Federal Grants and Contracts - Contract funds have been provided by the Office of Naval Research for the continuation of studies in the area of manpower research and development (estimated expenditures of \$204,000 in FY 1981 and \$235,000 in FY 1982).

NATIONAL MUSEUM OF NATURAL HISTORY/MUSEUM OF MAN

(Dollars in thousands)

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	505	14,462	1	78	--	624	1	479	38	1,170
FY 1981 Base	505	15,727	1	45	--	133	1	433	39	1,288
FY 1982 Estimate	505	16,733	--	27	--	144	1	313	38	1,182

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	505	0	505
Number of Other Positions.....	74	6	80
11 Personnel Compensation.....	12,763	368	13,131
12 Personnel Benefits.....	1,184	34	1,218
21 Travel & Trans. of Persons.....	121	8	129
22 Transportation of Things.....	39	4	43
23 Rent, Comm. & Utilities.....	48	5	53
24 Printing and Reproduction.....	219	51	270
25 Other Services.....	669	405	1,074
26 Supplies and Materials.....	407	71	478
31 Equipment.....	277	60	337
Total	<u>15,727</u>	<u>1,006</u>	<u>16,733</u>

Analysis of Increase

Necessary Pay.....	207
Inflation.....	126
Program Funds.....	673

ABSTRACT - The National Museum of Natural History/Museum of Man (NMNH/MOM) is a major center for research in the natural sciences and on the origins and development of man and is the largest repository of artifacts and specimens in the nation. A staff of 122 scientists conducts basic research on man, animals and plants, and the earth. The large collection of specimens from each of these disciplines, held in trust by the Museum for use by scholars, is an important national resource. The Museum's exhibit and education programs seek to describe and display some of the holdings and programs of the Museum. For several years the name Museum of Man has appeared with the name National Museum of Natural History. As a concept, the Museum of Man has an exciting scope and potential, yet it has had only a limited physical and organizational presence. Beginning in FY 1982, the Museum plans to provide substance to the Museum of Man concept by strengthening particular areas of scholarship.

For FY 1982 an increase of \$673,000 is requested to meet the following exhibits and research requirements: (1) \$243,000 for the Museum's new Special Exhibits Gallery; (2) \$190,000 for the Museum to maintain its schedule of exhibits refurbishment; (3) \$125,000 to fund new research activities of the Museum of Man; (4) \$64,000 for a new Insect Baseline Studies Program; (5) \$35,000 for support of research publications; and (6) \$16,000 for a clerk in the Shipping Office. An amount of \$207,000 is required for necessary pay for existing staff and an amount of \$126,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The National Museum of Natural History/Museum of Man maintains the largest scientific reference collections in the nation (over 60 million objects) and has the legal responsibility (20 U.S.C. 59) to serve as the repository of all collections of objects of natural history, archeology, and ethnology given by agencies of the government when no longer needed for investigations in progress. Additionally, the NMNH/MOM is the repository for numerous extremely valuable collections obtained from the scientific community, academic institutions and many individuals.

The Museum undertakes four major kinds of activities: scientific research, exhibitions, education and collections management.

The Museum's research program encompasses a broad variety of basic studies and publications on man, plants, animals, fossil organisms, rocks, minerals, sediments and materials from outer space. With 122 research scientists on its staff and with many visiting scientists, the Museum is a leader in the investigation of the natural world and of man. This research is taking on greater importance for mankind in view of the substantial pressures being placed on the natural environment by human activities and by-products. Scientists must search for remedies to the great changes being caused to the environment, and they must provide information about the animals and plants of the world which will help agriculturists, planners and governments to avoid unnecessary harm to the environment in the future. Where harm to the environment is becoming irreparable, it is incumbent upon scientists to study and to understand the endangered area in order to save knowledge about animal and plant species which will be destroyed forever. In the 1980s, scientists of the National Museum of Natural History/Museum of Man will focus increasingly on these real problems of the natural world. For example, the tropical jungle areas of the world, and particularly in South America, are being destroyed at a rapid rate. The Museum is now organizing teams of its scientists to study the environments and life forms in these areas before they are destroyed and while there still may be time to ameliorate the damage being done. Special attention also must be given to the study of marine environments that are becoming threatened as well.

Nearly six million people visited the Museum in FY 1980 including many thousands of school children attracted by the exhibitions. The Museum's major program of exhibits improvements, which was begun in FY 1974, has now produced major new exhibition halls. Funds are sought in this budget to maintain this program.

Renovation of the Dinosaur Hall continued in 1980, with its opening scheduled for September 1981. Of major importance to the Museum's exhibit program is the new Special Exhibits Gallery. This Gallery will occupy the Museum's largest single space in the building, off the Constitution Avenue entrance. Renovation of this space, largely accomplished through a private donation, will be completed in early summer of 1981, with the first show, "5000 Years of Korean Art" scheduled to open on July 15. The Gallery will feature outstanding temporary shows with a natural history and man-related subject content, and will enable the Museum's audiences to see exhibitions which previously could not be shown anywhere in the Washington area because of a lack of adequate space.

Like the scientific research and the exhibit programs, the collections housed at the National Museum of Natural History/Museum of Man also serve science and the nation. The Museum receives many valuable collections obtained from scientists, academic institutions and private individuals. These collections are of great value to hundreds of scientists who visit the Museum during the year to study them. In addition, the collections are the basis for many publications issued by the Museum and undergird the findings reported in them. The collections are a form of library, a set of benchmarks, that are of vital importance as a reference base for the natural sciences.

The Oceanographic Sorting Center prepares and distributes marine animal and plant materials to scientists from 200 agencies around the world who are concerned with marine pollution, ocean dumping, pollution monitoring, environmental prediction, and systematics studies. The Scientific Event Alert Network is responsible for providing timely notice of short-lived natural scientific phenomena and events, such as volcanic activity, meteorite falls and marine mammal strandings, to scientists and other concerned professionals within and outside the Smithsonian.

The Museum's education program endeavors to impart knowledge of the natural world and of man to its visitors. As part of its education program, the Museum provides assistance for elementary and secondary school groups. In addition, many members of the scientific staff participate in joint educational programs with universities by teaching courses, training graduate students, and conducting science seminars. The NMNH/MOM also provides leadership in the improvement of museum techniques and collections management, especially through the application of computer technology. With the completion in mid-1976 of the Museum's new West Court addition housing the Education Learning Center and the Naturalist Center, major new educational resources were made available to the public. The Learning Center has four classrooms and an assembly area for the use of visiting groups of students. The Naturalist Center features representative collections from many groups of organisms as well as rocks, minerals, and anthropological materials. The resources of the Center, including the collections, the library, and the volunteer assistants, are available to all amateur naturalists.

The Handbook of North American Indians, a special project of the Museum, will produce a 20 volume encyclopedic treatment of the cultures, artifacts, territories and habits of native North American Indians. Three volumes have been published so far: Northeast, California, and Southeast; and a fourth, Subarctic, will be published early in 1981. Each volume contains sixty to eighty separate articles submitted by scholars from throughout the world, and each volume is well illustrated. The knowledge incorporated in the Handbook will be useful to scholars for generations to come. The pace of production of the Handbook is set by the rate at which the essential scholarship can be undertaken, but it is hoped that the work can be completed before the end of the decade.

New funding appropriated in FY 1980 provided support for two vital areas of museum collections management. The sum of \$200,000, received for the purchase of drawers, together with the Museum's previous storage equipment base funds of \$200,000 is being applied toward overall Museum Support Center equipment costs. This sum is shown in the Museum Support Center Equipment portion of the Special Programs section of this budget request. The funds are enabling the Museum to begin the process of acquiring encasement equipment for the new Museum Support Center. The drawers purchased in FY 1980 and in FY 1981 are being used chiefly by the Departments of Entomology and Mineral Sciences to store insect and mineral specimens which have been accumulating in cardboard boxes and other unsuitable containers prior to the receipt of these funds. These collections eventually will be moved to the Support Center in the new drawers.

The sum of \$359,000, first received in FY 1980 for collections inventory work, has been used to accelerate the Museum's inventory program. The funding now available, including a share of the special inventory funds provided to the Institution, and funds for inventory work already in the Museum's base, will enable the Museum to continue its task of inventorying the collections. In particular, the target of inventorying all materials to be moved to the new Support Center will be reached. This major program of collections inventory not only will be useful in managing the move of the materials but also will be an excellent day-to-day collections management mechanism. It will enable curators to access the collections much more rapidly and this will enable them to answer many more questions, and more difficult questions, from the scientific and lay public. Also, the inventory lists will be useful in accurately representing the strengths and weaknesses of the collections and this should help the curators in deciding whether to accept or reject additional materials offered to the Institution. In this connection, in the past several years the Museum has developed policies to assist the individual curator and the Director in determining the Museum's priorities for acquisitions. Strict criteria have been established that must be met before a specimen or object is considered for acceptance. Many items offered to the Museum are not incorporated into the collections.

The existing collection also is being reevaluated. In the process of conducting the collections inventory, the museum staff is determining the importance of the specimens and objects in its collection. Those considered to be expendable are given to another institution or an educational facility, or are discarded.

The appropriation request for the Collections Management/Inventory Program, an explanation of this Program and a comprehensive funding summary appear in the Special Programs section on page A-170.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, a total increase of \$673,000 is requested to meet exhibits and research requirements, including: (1) \$243,000 for the Museum's new Special Exhibits Gallery; (2) \$190,000 for the Museum's exhibit refurbishment program; (3) \$125,000 for funding new research activities of the Museum of Man; (4) \$64,000 for a new Insect Baseline Studies Program; (5) \$35,000 for support of research publications; and (6) \$16,000 for a clerk in the Shipping Office.

Special Exhibits Gallery (\$243,000) - The Smithsonian Institution attracts approximately 27 million visitors each year to its museums. One serious deficiency in the Institution's exhibits programs over the years has been the lack of an adequate temporary exhibits gallery of sufficient size and quality to accommodate outstanding traveling shows originating at other museums around the world. Because of this lack of space, shows of major importance, such as the recent celebration of the 2,000th Anniversary of Pompeii, and the spectacular "Gold of Eldorado" exhibition, cannot be shown in Washington, D.C. The National Gallery of Art does have a special exhibit gallery and has hosted important temporary shows in the past, but the Gallery has a policy of only presenting shows which originate at the Gallery. Naturally, this excludes many worthy shows which originate elsewhere.

The Special Exhibits Gallery also will provide the stimulus and the means for NMNH/MOM to assemble exhibits from its own collections that could open in the new Gallery and then travel to museums in other cities. Such a program would enable Smithsonian collections, now hidden from public view, to be viewed by audiences nationwide.

The Special Exhibits Gallery currently is being constructed mainly with funds provided by a private donation. Space for the Gallery, consisting of approximately 14,000 square feet of prime area on the ground floor of the Museum, was obtained by completely renovating the gallery near the Constitution Avenue entrance of the building.

Funds of \$243,000 are sought for the salaries of four temporary program coordinators and exhibits specialists who are needed to manage the Special Exhibits Gallery (\$79,000) and for the costs of installing one of the three shows that is planned each year (\$164,000). Corporate funding will be sought for the installation of the other two shows. The first of the these shows, "5000 Years of Korean Art," is scheduled to open on July 15, 1981, and will feature crowns of gold and jade from recently excavated royal tombs, Buddhist sculptures, celadons of the Koryo Dynasty, and numerous works of pottery and porcelain.

With the addition of the new Special Exhibits Gallery, the Museum will round out its exhibition service to the public and will increase the enjoyment of a visit to Washington for many millions of people in the future.

Exhibits Program Improvement (\$190,000) - The exhibits program is responsible for maintaining and upgrading the 30 permanent exhibit halls in the Museum. Nearly half a million square feet of space are devoted to exhibitions and many are outdated, not having been changed or upgraded for 20 years or longer. Recognizing the need to improve the exhibit halls, in FY 1974, the Museum initiated a major program of exhibits improvements, with the goal of upgrading one and one-half halls a year. The amount of funds available for this program of improvement, approximately \$1,000,000 annually, has remained static for at least the past six years. The cumulative effects of inflation since FY 1974 (currently running in excess of 16 percent per year for exhibits materials) have reduced the effectiveness of the program to such an extent that both quality and timeliness of renovation of the Museum's permanent exhibit halls have been reduced dramatically. Presently, less than one hall can be refurbished a year. Increased funding of \$190,000 is needed to return this important program to its original schedule. (The amount of \$190,000 is in addition to the general inflation funds being sought in the Uncontrollable section of this budget.) The funds requested will be designated exclusively for the purchase of equipment used to fabricate exhibits, such as saws and lathes; for exhibit fabrication supplies, including lumber and plexiglas; and for contractual services for demolition and construction of exhibit halls.

Museum of Man (\$125,000) - A Museum of Man has long existed at the Smithsonian as a concept, and as a confederation of programs. In succeeding years, it is envisioned that a Museum of Man might include such programs as the National Anthropological Film Center, the Research Institute on Immigration and Ethnic Studies, Handbook of North American Indians, the Museum of Natural History's Department of Anthropology, and the Folklife and Native American Programs. As a concept, the Museum of Man presents exciting scholarly research and exhibits possibilities by combining the focus of a number of the Institution's "man-related" activities. The potential for increase of knowledge from a Museum of Man, which would focus on man both as an occupant of the natural world and as a builder and destroyer of societies, cultures, and religions, is great. The time has come, in terms of the maturation of existing programs and the development of a sound foundation, for the Museum of Man to take on more substance. The existing programs of the Museum of Man confederation are all operating well and the climate for strengthening and providing focus to the concept is very favorable. For FY 1982, an amount of \$125,000 is sought to fund three new positions and related support costs for a developing Museum of Man. (The positions will be redirected from existing clerical and janitorial vacancies in the Museum.)

In giving substance to the Museum of Man concept, care will be taken to draw upon existing strengths of the Smithsonian and to focus upon areas that are relevant to its charter. It would be a serious mistake for the Smithsonian to try to encompass all man-related activities, for these would include virtually everything in the field of scholarship. Therefore, the new focus established in this budget is on areas where excellence has already been established. For example, the Smithsonian had a very important role to play in the early work on the evolution of man. Leadership in this field was early established by Dr. Ales Hrdlicka, a scientist at NMNH/MOM from 1903 to 1943, and has been continued by several scientists since his day. At present, however, there is no one on the Museum's staff who is actively engaged in this most exciting area of research. The resources of the Museum contain a very rich comparative collection of non-human primate material, relatively recent human skeletons, and cast material of fossil hominids. The base exists for highly productive research in hominid evolution, a most appropriate area of inquiry for the Museum of Man. One of the positions for which funds are being sought is that of hominid evolutionist.

Two areas of the world rich in history and culture are Asia and Africa, yet coverage of these important geographic areas on the staff of the Museum of Man is not adequate. The Museum has one Asian ethnologist, but considering the vast scope and complexity of man's past and present history in Asia, it is obvious that at least one more research scientist, to concentrate on North Asian ethnology, is needed. For the continent of Africa, the Museum has an African ethnologist, but desperately needs an archeologist to study African pre-history. Africa was probably the cradle of human evolution, and no doubt there has been human occupancy of the continent for millions of years. We have learned enough, so far, to know that important cultures developed on the continent of Africa, but we know very little in detail about most of these. The addition of a North Asian ethnologist and an African archeologist to the staff of the Museum of Man would help to fill the existing gaps. Funds are sought also for the salaries and related support costs of these positions.

Baseline Studies on Target Insects of Economic Importance (\$64,000) -
Certain insects have always been the bane of man's existence. For thousands of years plagues of insects have decimated man's crops and shortened or ended his life, and they continue to do so today. For a while it was thought that broad-spectrum insecticides, such as DDT, could eliminate these plagues of insects and allow man to be free of insect-borne diseases, and to raise cattle and crops successfully where this had been impossible before. Unfortunately, owing to the rapid reproductive and evolutionary rates of the insects, many formerly effective insecticide deterrents have lost their effectiveness in eliminating plagues of insects. Moreover, the insecticides are now a serious environmental pollutant.

New biological control programs to develop and cultivate natural attractants and natural enemies of insects are now being tested by hundreds of Federal and state laboratories, but these programs cannot be successful without rapid and absolutely accurate identification of the target insect species. Unfortunately, such identification is impossible for most groups of insects because of the lack of baseline studies on these groups. NMNH/MOM conducts basic entomological research on biological life histories, immature insect stages, geographical distributions, parasitic relationships and identification aids. For example, work is underway on the clothes and carpet moths of the new world, bees of North America, and on control insects such as the fresh water beetles of North America and the predaceous ground beetles of Middle America. Additional funds of \$64,000 are sought to accelerate the progress of these studies. The funds will be used for two temporary technician positions, supplies and contractual services for artwork and microslide preparation.

Research Support (\$35,000) - The staff of the National Museum of Natural History/Museum of Man includes many world-renowned experts in their fields. This highly productive group of people each year writes many dozens of papers and articles on their research. The cost of publishing has risen very rapidly in recent years, and the Museum requires additional funding to continue to publish them. The sum of \$165,000 was apportioned to the Museum for the support of publications five years ago, and at that time it was adequate to meet the needs. But over the last three years the cost of supporting publications has risen to \$200,000 or more. The Museum is requesting an additional \$35,000 in support of publication costs in order to be able to make available to the public on a timely basis the work of the research staff.

Shipping Clerk (\$16,000) - Funds of \$16,000 are sought for FY 1982 to hire a shipping clerk who would process through NMNH/MOM's shipping unit packages and materials for the Radiation Biology Laboratory and organizations located in the Arts and Industries Building, Smithsonian Institution Building and L'Enfant Plaza. The present occupant of this position, who will be retiring, is paid with nonappropriated Trust funds. Since the nature of the work relates almost entirely to basic research and collections, the Institution believes that it would be more appropriate for the position of shipping clerk to be financed with Federal funds.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources including the Museum's share of sales in the museum shop and cafeteria; from other receipts such as those realized from the sale of exhibit brochures and the "By-Word" communications system; from tuition grants from local universities; from product development activities; and from allotments including those from the Institution's Collections Acquisition, Scholarly Studies and Education Program which supported the acquisition of the R. K. Harris archeological collection, audiovisual equipment, and several research and educational projects. Expenditures through this Program, which totaled \$242,000 in FY 1980, have not been recorded for FY 1981. This explains the variance in totals shown between FY 1980, FY 1981 and FY 1982. The National Museum of Natural History/Museum of Man can, however, expect to receive and spend funds made available through this Program in FY 1981 and in FY 1982. In addition, funds are used to help finance related brochures, field research support, laboratory equipment and supplies, training for anthropology students, the anthropological archives, supplies for the conservation laboratory, and special events for the opening of new exhibits.

Restricted Funds - Funds provided here are in the form of restricted endowments which specify the use of the donation or bequest and of gifts and foundation grants provided by individuals, organizations or corporations for specific purposes. Generally, the funds provide support for a particular exhibit or project. Among the restricted funds are the Stuart Fund for acquisition of mineral specimens and gems (estimated expenditures of \$100,000 in FY 1981 and in FY 1982) and the Roebling Fund also for the acquisition of mineral specimens and gems (estimated expenditures of \$13,000 in FY 1981 and in FY 1982); the Hughes Fund for field research in old world archeology (estimated expenditures of \$8,000 in FY 1981 and \$6,000 in FY 1982); the Drake Foundation Fund for the purchase of entomology specimens (estimated expenditures of \$4,000 in FY 1981 and \$5,000 in FY 1982); the Fossils and Industry Fund which consists of gifts from numerous corporate donors to sponsor a permanent exhibition on the economic applications of fossils (the exhibit is anticipated to open in FY 1981 with expenditures of \$151,000 in FY 1980 and estimated expenditures of \$12,000 in FY 1981); the Exxon Fund for ecological study of coral reefs (estimated expenditures of \$16,000 in FY 1981 and of \$26,000 in FY 1982); and the Sprague

Fund for experimental and field research into the physics and chemistry of the earth (estimated expenditures of \$43,000 in FY 1981 and \$35,000 in FY 1982). The Museum also has several other restricted funds, each with anticipated expenditures of less than \$15,000 a year.

Federal Grants and Contracts - These funds are provided by various agencies and departments for special projects which can be conducted at NMNH/MOM as a result of its particular expertise. Examples of Federal contract support are the medical entomology project funded by the United States Army that conducts basic biosystematic research on the effects of arthropods, such as mosquitoes, which are of military medical significance overseas (estimated expenditures of \$253,000 in FY 1981 and \$278,000 in FY 1982); the "Tumor Registry in Lower Animals" project which facilitates the study of neoplasms and related disorders in invertebrate and cold blooded vertebrate animals important in human biomedical research (estimated expenditures of \$193,000 in FY 1981 and \$220,000 in FY 1982); and several other smaller grants for research, including one from the National Science Foundation for the development of the living Coral Reef exhibit, which opened in October 1980 (estimated expenditures of \$147,000 in FY 1981 and \$120,000 in FY 1982); and another to curate material collected during the Bureau of Land Management outer continental shelf biological sampling program in the Atlantic and Gulf regions (estimated expenditures of \$214,000 in FY 1981 and \$196,000 in FY 1982).

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

(Dollars in thousands)

			NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
Fiscal Year	FEDERAL FUNDS		General		Special Purpose		RESTRICTED		FEDERAL GRANTS & CONTRACTS	
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	73	5,028	79	2,217	--	433	1	123	171	10,636
FY 1981 Base	77	5,386	75	2,654	--	97	--	69	215	12,972
FY 1982 Estimate	81	5,901	75	2,897	--	87	1	71	202	14,643

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	77	4	81
Number of Other Positions.....	13	0	13
11 Personnel Compensation.....	3,023	182	3,205
12 Personnel Benefits.....	272	18	290
21 Travel & Trans. of Persons.....	58	12	70
22 Transportation of Things.....	32	3	35
23 Rent, Comm. & Utilities.....	412	58	470
24 Printing and Reproduction.....	25	2	27
25 Other Services.....	1,259	126	1,385
26 Supplies and Materials.....	199	52	251
31 Equipment.....	106	62	168
Total	5,386	515	5,901

Analysis of Increase

Necessary Pay.....	51
Inflation.....	157
Program Funds.....	307

ABSTRACT - The Smithsonian Astrophysical Observatory (SAO), established in 1890 has as its primary goal the increase and diffusion of knowledge about the earth and the universe. To accomplish this SAO conducts a broad program of basic astrophysical research in eight interrelated scientific fields: atomic and molecular physics, high energy astrophysics, optical and infrared astronomy, planetary sciences, radio/geoastronomy, solar and stellar physics, and theoretical astrophysics. Use of both ground-based and space-borne instruments for data gathering, the reduction and analysis of data and the computer formulation of mathematical models of astrophysical systems are essential to SAO's research program. For these purposes SAO maintains a multipurpose observing facility at Mt. Hopkins in Arizona and a number of small observing stations around the world

and operates a central computing facility at its headquarters in Cambridge, Massachusetts. It participates in the scientific space-borne experiments sponsored by the National Aeronautics and Space Administration (NASA). Many SAO programs, particularly those involving space observations, are supported by grants and contracts from government agencies such as NASA and the Naval Research Laboratory. Other programs are conducted in cooperation with state and private educational institutions.

For FY 1982, an increase of four positions and \$307,000 is requested, consisting of: 1) \$50,000 to strengthen the Langley-Abbot Program, which is concerned with the relationships between solar energy and the terrestrial environment; 2) two positions and \$160,000 to establish a permanent X-ray laboratory and test facility; 3) \$30,000 for the upgrading of Mt. Hopkins' support vehicles; 4) one position and \$42,000 for salary and related costs of a safety specialist; and 5) one position and \$25,000 to hire a tour bus driver/mechanic at the heavily visited Multiple Mirror Telescope site located at Mount Hopkins, Arizona. An amount of \$51,000 is required for necessary pay for existing staff and an amount of \$157,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Smithsonian Astrophysical Observatory's continued leadership in modern astronomy results in part from its diversified approach to research that encompasses many subdisciplines. The breadth and depth of the SAO program, with pioneering projects in several fields, have attracted a large and talented assembly of scientific and technical experts. In turn, this staff has created an atmosphere of innovation that both inspires the development of new research tools and encourages the rapid and effective response to promising avenues of investigation. Although research projects are grouped in seven divisions, all efforts are integrated in a comprehensive program so that the results in one division often complement those in another. Those divisions are:

1. Atomic and Molecular Physics - The major objective of this division is to increase knowledge of the processes and parameters of atomic and molecular physics that are fundamental to all branches of astronomy. It is involved in laboratory astrophysics as well as theoretical studies of atomic and molecular physics.

2. High Energy Astrophysics - The activities of this division are concentrated in the acquisition and analysis of observations of X-ray sources obtained by X-ray instruments aboard satellites, rockets and the Space Shuttle and in the development of new instrumentation for future space science missions.

3. Optical and Infrared Astronomy - This division concentrates its research in the areas of optical and infrared observations of planets, stars and galaxies. Instrumentation and specific research projects are developed for use at Mt. Hopkins' facilities.

4. Planetary Sciences - The research of this division is concerned with the studies of structure and composition of planetary atmospheres; studies of asteroids, meteorites, cosmic dust and comets; studies of lunar and other extra-terrestrial materials; and studies pertaining to the evolution of the solar system.

5. Radio/Geoastrometry - The radio group in this division is concerned with very long baseline interferometric (VLBI) observations of celestial radio sources; the geoastrometry group studies the earth's motion, geodesy and geophysics, and celestial mechanics.

6. Solar and Stellar Physics - The research activities of this division focus on understanding the physical processes in the sun and the stars, on studies of solar activity, and on understanding the intricate relationship between the sun and the earth.

7. Theoretical Astrophysics - This division carries out research on a diverse range of astrophysical phenomena. Researchers are involved with the construction of model stellar atmospheres; investigation of massive and high density stars; and cosmology; studies of galactic evolution; physics of interstellar matter; relativistic astrophysics; and gravity-wave physics.

In support of these investigations, scientific data are obtained from laboratory experiments in Cambridge; from telescope observations conducted primarily in SAO's Mt. Hopkins Observatory in Arizona--site of the Multiple Mirror Telescope (MMT); at SAO's worldwide network of small observing stations and other major observatories cooperating with SAO; and from space observations utilizing satellites, rockets and balloons, primarily funded by contracts and grants from NASA. The reduction and analysis of these data are performed with SAO's large interactive computing facilities in Cambridge. The resulting astrophysical models and scientific interpretations are published in scientific journals and reports and distributed widely to the world's scientific community. They also are disseminated to the public through lectures and popular articles.

In astronomy, perhaps more than any other field of science, the directions of research and advancement of knowledge most often result directly from the development of new instrumentation. In the Optical and Infrared Division, the Multiple Mirror Telescope is rapidly approaching full operational status. This is expected to be achieved in late FY 1982. During the past year, the use of the telescope for scientific observing has increased to 70 percent with the remaining 30 percent still dedicated to engineering and upgrading of the active optics system and maintenance. After a full year's operation, it has surpassed all technical expectations and the combination of this unique design concept and its site on Mt. Hopkins promises to make it one of the best telescopes in the world for observing infrared sources. Two new instruments have been completed and brought into operation on the MMT. One is a new spectroscopic device which separates the beam of light received through the telescope into various wavelengths so that each wavelength can be examined individually. The other is a camera developed at SAO which uses a light-sensitive electronic element that records 25 times more of the light that falls on it than can be recorded by traditional photo-chemical methods. In the past seven years, there have been 15 successful launches of the infrared balloon-borne telescope. After each launch, which reaches an altitude of about 95,000 feet, the telescope parachutes back to earth. The rigors of this kind of use have begun to take their toll on the electronic elements and a six to eight month planned program of refurbishment will ground the telescope beginning late in FY 1981. Work continues on the small helium cooled infrared telescope being developed at SAO under NASA contract, for space flight aboard the Shuttle-borne Spacelab 2. The current NASA schedule indicates that the launch will take place in November 1983. This instrument is designed to make the first complete map of extended regions of low-level infrared emission from the Milky Way.

In the High Energy Division, effort continues in the analysis of the data obtained from the Einstein satellite, which carries the first X-ray telescope capable of providing focused images of X-ray objects in space. Significant results have been obtained in several areas, including the unexpected finding that virtually all stars emit X-rays. Up until this discovery, the theory of stellar evolution was well established and thought to be well understood. Now, new models and theories of stellar evolution will be constructed to account for the exciting new observations. SAO has played and continues to play a leading

role, working with the Marshall Space Flight Center, in defining the objectives, specifications and conceptual design of the next generation X-ray telescope--the Advanced X-ray Astrophysics Facility (AXAF). This telescope will produce sharper imaging allowing one to see more detail in the structure of X-ray sources. It will be 100 times more sensitive than the Einstein satellite, allowing us to see faint X-ray sources deep in space, which amount to looking further back in time. In addition, AXAF will be designed to stay in orbit at least 10 years providing a wealth of scientific observations. NASA's new start authority for this satellite is expected in FY 1984, at which time SAO expects to 1) continue to provide technical and scientific guidance in the development of the facility, and 2) to develop one or more of the instruments which would be used with AXAF. SAO continues its development of the Large Area Modular Array of Reflectors (LAMAR) for the Space Shuttle on an extended schedule. There also is progress in the development of X-ray detectors for use on future X-ray instruments. This effort is expected to be expanded with the addition of two positions requested for FY 1982.

The Solar and Stellar Physics Division of SAO conducts studies of the fundamental problems of solar physics. The Division is also at the forefront of a rapidly developing activity on other stars to learn about solar activity, and the complementary program of selecting solar investigations that give insight concerning stellar activity. The Langley-Abbot Program provides an understanding of fundamental physical processes occurring in the sun, such as solar flares. Knowledge gained by understanding the sun can then be applied to the understanding of other stars. The converse also is true that studying other stars at various stages of stellar evolution provides substantiation of solar theoretical models.

In the Radio/Geoastrometry Division, the development of an image processing system was initiated. The system is required because the radio astronomy data acquired using VLBI techniques is provided in the form of an electrical signal rather than a photograph. A large number of these signals is required to reconstruct a photograph or image. The most efficient way to create these images is to develop a system to process the data contained in the electrical signal into a computerized image. The system being developed will be compatible with that of the National Radio Astronomical Observatory and will allow for the easy transfer of analytical computer programs already developed there.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of four positions and \$307,000 are requested, consisting of: 1) \$50,000 to strengthen the Langley-Abbot Program; 2) two positions and \$160,000 for an X-ray laboratory and test facility; 3) \$30,000 for upgrading of Mt. Hopkins support vehicles; 4) one position and \$42,000 for a safety specialist; and 5) one position and \$25,000 for a bus driver/mechanic at Mt. Hopkins.

Langley-Abbot Program (\$50,000) - The Langley-Abbot Program (LAP) provides a nucleus of two solar physicist positions, giving continuity and long-term stability to support SAO's continued leadership and participation in the study of critical problems of solar physics. A valuable component of this Program is the participation of short-term visitors having special expertise that complements the existing staff. A particular benefit of the visitors program has been studies of long-term solar variability and theoretical investigation of the structure of the solar interior and atmosphere. Both of these areas of research will result in a better understanding of the possible climatic impact the sun's changes in brightness and activity may have on the earth. To increase the funding available for visiting scientists and to provide additional research support funds for the SAO staff engaged in solar physics research under the Langley-Abbot Program, an increase of \$50,000 is sought. With the proposed increase the Program would be funded at a level of \$200,000.

X-ray Laboratory and Test Facility (\$160,000) - Since the formation of the High Energy Astrophysics Division in 1973, the Smithsonian Astrophysical Observatory has become a leader in the development of single photon imaging cameras for space astronomy. This most recently is reflected in the instrumentation currently in use on the Einstein (HEAO-2) X-ray Observatory. The two X-ray cameras in this orbiting telescope have provided the first images of celestial X-ray sources. Because of the sensitivity of these cameras, X-ray objects are being revealed which have never been observed before and are radically changing the field of X-ray astronomy. Future space observatories are already being planned, such as the Advanced X-ray Astrophysics Facility (AXAF) and the Large Area Modular Array of Reflectors (LAMAR), which will utilize X-ray cameras to study in detail the broad range of objects which have been discovered to date.

In order to exploit fully the capabilities of these future space observations, advanced instruments are required which provide improved resolution, high efficiency and broad spectral response over a large field of view. The establishment of a permanent X-ray imaging camera laboratory at SAO would insure SAO's future role in the development of advanced instrumentation for space-borne astronomy and in the attendant data analysis. Two senior astrophysicist positions and \$99,000 are sought to establish such a laboratory, with additional staff to be drawn from existing SAO staff. The new positions will provide the necessary scientific supervision and management for advanced X-ray instrument development, as well as experimental and technical implementation. A further amount of \$61,000 is requested for related supplies and specialized electronic test equipment such as micro-focus X-ray source, an X-ray beam monitor with its attendant support devices, and a remote control for testing vacuum systems.

Vehicle Maintenance (\$30,000) - As use of the MMT becomes greater, there is an ever increasing demand on the vehicles and equipment at the Mt. Hopkins Observatory. With the increase in the number of scientists desiring access to MMT, more trips are required by vehicles up the mountain. The increased traffic accelerates wear on the transporting vehicles which, in turn, results in more frequent vehicle maintenance. Up until now, SAO has relied heavily on acquisition of such vehicles and equipment from excess property. Besides the need for 4 wheel drive vehicles for transportation, front-end loaders, dump trucks and road graders are necessary to maintain open access to the top of Mt. Hopkins in spite of rock falls, mud slides or snow. However, the cost of acquiring excess property and of putting these vehicles into first-class operating condition is putting a burden on the Observatory's operating budget of \$173,000 in nonsalary areas of expense. Therefore, an amount of \$30,000 is requested to initiate a program of maintenance and vehicle upgrading, either by acquisition of equipment via excess property, or in the event that the needed equipment is unavailable, by purchasing new equipment.

Safety Specialist (\$42,000) - In the fall of 1979, health, safety and fire protection officers of the Institution's Office of Protection Services conducted an inspection of the SAO facilities both in Cambridge and Mt. Hopkins. The results of this inspection indicated that improvements were needed for SAO to be in full compliance with several of the standards set by the Occupational Safety and Health Act (OSHA) of 1970 and the National Fire Protection Association (NFPA). Nearly all of the corrections cited in the report have been accomplished and the remainder will be made shortly. However, the report made clear the need for an individual who would provide regular guidance in the areas of safety and fire protection. Much of SAO's laboratory work requires high pressure vacuum systems and high voltage equipment, both of which are potentially dangerous. The geographic distance between Cambridge and Washington, D.C., approximately 500 miles, makes it impossible to use personnel from the

Office of Protection Services to deal with day-to-day problems. Therefore, one position and \$42,000 are sought to hire a safety specialist and to cover related items, such as training materials and other associated expenses.

Multiple Mirror Telescope Tours (\$25,000) - Although SAO is a research facility involved in fundamental research, considerable emphasis is placed on the diffusion of knowledge. Since the dedication of the Multiple Mirror Telescope (MMT) at Mt. Hopkins, Arizona in 1979, the Mt. Hopkins Observatory has been overwhelmed by requests to tour the facility. To accommodate the demand for public access to this national facility, SAO has instituted a series of bus tours, staffed by the Mt. Hopkins support staff using one of their vehicles. Because of the rigorous terrain--a one lane unpaved 18 mile mountain road--access by private vehicles has been discouraged. As of December 1980, the Observatory has provided 171 tours of the facility, accommodating almost 4,000 people. In addition, over 1,000 potential visitors have had to be turned away. Typically, the tours last five hours, three of which are spent negotiating the road (one and one-half hours each way). Because of the driving required and the increased maintenance of the tour vehicle, the provision of this public service is placing a burden on the Mt. Hopkins support staff. Anticipating that the popularity of the tour will continue to grow, an additional position and \$25,000 are sought to add a bus driver/mechanic to the staff and to defray associated maintenance costs of the tour vehicle.

SAO RESEARCH HIGHLIGHTS AND OTHER DEVELOPMENTS

Accomplishments in FY 1980

- Observation with a rocket-borne Lyman Alpha Coronagraph to provide information on the solar corona in the acceleration region of the solar wind.
- Precision orbital tracking of low orbit satellites for the improvement of gravity-field models of the earth and oceans.
- Initiation of analytical development of a space-borne tether system for a possible shuttle experiment for in situ measurements of gravity-field gradients and electrodynamics.
- Continued operation of the Einstein satellite, reduction and analysis of data, and operation of the guest investigator program.
- Continued design of instruments and telescope for a space-borne Advanced X-ray Astrophysics Facility (AXAF).
- Initiation of design and construction of a Lyman Alpha Coronagraph for an experiment to be flown on the Space Shuttle. The purpose of the experiment is to make measurements of the solar wind acceleration region of the solar corona.
- Initiation of design and construction of a Large Area Modular Array of Reflectors (LAMAR) for X-ray observations aboard the Space Shuttle. LAMAR is an array of small X-ray telescopes which will be used to observe X-ray sources.
- Successful launch of a sounding rocket carrying solid state X-ray spectrometer.
- Continued design and development of a small helium cooled infrared telescope planned for flights on the Spacelab II mission of the Space Shuttle. Launch is now scheduled for November 1983.

- Initiation of studies for a reflight of the small infrared telescope aboard a future Space Shuttle mission. The purpose of the mission will be to map infrared sources.
- Participation of SAO scientists with scientists from industry and the Massachusetts Institute of Technology to design instruments for plasma physics and for radio astronomy that would be flown aboard future Space Shuttle missions.
- Successful operation of instruments designed for use with the MMT including a photon-counting Reticon for spectroscopic applications and an RCA Charged-Coupled device (CCD) for direct imaging.

Accomplishments in FY 1981

- Installation of wind screen on MMT structure.
- Modification and upgrading of the active optics system for the MMT.
- Establishment of a detector development program which is anticipated to have broad applications in several disciplines.
- Continued development of instruments for the MMT.
- Completion of system for operating the VLBI network from a single location and initiation of the operational assessment of the system.
- Refurbishment of the infrared balloon-borne telescope and support electronics.
- Continued reduction and analysis of data from the Einstein satellite.
- Completion of Dining/Commons Building at Mt. Hopkins.
- Completion of 60 degree Telescope Annex at Mt. Hopkins.
- Continued development of instruments for Space Shuttle, specifically the Shuttle Lyman Alpha Coronagraph (SLAC), the Large Area Modular of Reflectors (LAMAR) and the small helium cooled Infrared Telescope (ITR).
- Establishment of VLBI image processing system.
- Submission of proposal to NASA for operation of entire NASA Satellite Tracking Network.

Plans Anticipated for FY 1982

- Establishment of X-ray laboratory and test facility.
- Continued efforts associated with the development of the Advanced X-ray Astrophysics Facility (AXAF) including development of engineering prototypes and subsystems.
- Continued development of Space Shuttle Program with Shuttle Lyman Alpha Coronagraph (SLAC) and Large Area Modular Array of Reflectors (LAMAR) being upgraded from stretch out mode to full program status.
- MMT becomes fully operational by the end of FY 1982, that is, totally scientifically usable.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds generally are provided from allotments and are used to support the administrative positions and other administrative costs of the Smithsonian Astrophysical Observatory (SAO). These costs are recovered almost entirely from overhead charged on grants and contracts. Funds also are used for travel and related costs of small, individual research grants and scientific lectures and meetings hosted by the Observatory. Special purpose funds also include income from the Computer Center which will be spent for additional computer attachments in future years (estimated expenditures of \$83,000 in FY 1981 and \$73,000 in FY 1982). Expenditures for the Fellowships and Visiting Scholars Program totaled \$388,000 in FY 1980. Estimated expenditures for this Program for FY 1981 and FY 1982 are included in the nonappropriated Trust funds section of Academic and Educational Programs. This is in recognition of the fact that SAO Fellowships and Visiting Scholars Program, like all Smithsonian fellowship offerings, is the direct responsibility of the Office of Fellowships and Grants for policy and management purposes.

Restricted Funds - Funds provided here are in the form of restricted endowments and foundation grants which specify the use of the donation or bequest and gifts provided by organizations or corporations for specific purposes. Generally, the funds provide support for a particular project. Restricted endowment funds provide support for studies in the field of geophysics and related physical sciences (estimated expenditures of \$66,000 in FY 1981 and \$70,000 in FY 1982).

Federal Grants and Contracts - SAO receives substantial funding from Federal agency grants and contracts for work which is integrated fully with both governmental and academic institutions in the United States and abroad. Funding comes from the National Aeronautics and Space Administration (NASA) for space science projects, particularly in the high energy astrophysics and geoastronomy/radio astronomy divisions. Some funding from other Federal agencies, such as the Naval Research Laboratory and the Air Force, is received to support specific projects in areas of SAO's expertise. The projected expenditure increases over FY 1980 of \$2,366,000 in FY 1981 and \$4,007,000 in FY 1982 are based on anticipated funding, primarily for the high energy astrophysics division from the NASA Shuttle Program and the Spacelab Project. However, reductions may occur in this category in FY 1982, depending on the financial and program status of certain NASA missions.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
			FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	74	2,257	2	54	--	151	--	50	--	--
FY 1981 Base	85	2,753	2	59	--	63	--	39	--	350
FY 1982 Estimate	86	3,003	2	61	--	61	--	45	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	85	1	86
Number of Other Positions.....	7	1	8
11 Personnel Compensation.....	1,620	83	1,703
12 Personnel Benefits.....	368	11	379
21 Travel & Trans. of Persons.....	68	12	80
22 Transportation of Things.....	10	1	11
23 Rent, Comm. & Utilities.....	147	15	162
24 Printing and Reproduction.....	39	37	76
25 Other Services.....	170	14	184
26 Supplies and Materials.....	255	24	279
31 Equipment.....	76	53	129
Total	2,753	250	3,003

Analysis of Increase

Necessary Pay.....	68
Inflation.....	54
Program Funds.....	128

ABSTRACT - The Smithsonian Tropical Research Institute (STRI), located in the Republic of Panama, is the United States leading basic tropical biology research center. The Institute's goals are to conduct and to promote advanced and basic original research studies in the biology of tropical organisms and to increase and diffuse knowledge of their ecology, behavior and evolution. In addition to fundamental research, STRI has the responsibility of promoting and developing environmental awareness and conservation of tropical environments through an active public education program.

For FY 1982, an increase of one position and \$128,000 is requested, consisting of: (1) \$37,000 to increase base funds available for publications resulting from research; (2) \$26,000 to hire an electrician to repair and replace electrical systems in the Institute's buildings (\$11,000) and offset higher utility rates in the Republic of Panama (\$15,000); (3) \$50,000 to establish a replacement program for vehicles and to purchase a launch and marine equipment; and (4) one position and \$15,000 for a diving safety officer who will assist and accompany scientists using marine equipment and facilities. Necessary pay in the amount of \$68,000 is required for existing staff and an amount of \$54,000 is sought to compensate for the effects of inflation in non-salary areas of expense.

PROGRAM - The tropics are considered to be the "cradle of life." Studies conducted there are aimed at learning about the evolution of life. By studying organisms in complex tropical environments, a better understanding of life in temperate zones is gained as well. Life on this planet represents a continuous interacting spectrum from one polar region to the other. Unfortunately, the tropics are little understood, having received relatively little attention from scientists, in spite of the fact that human population is growing at a faster rate in this region than anywhere else. This growth is threatening the tropics before they have been studied adequately and methods must be derived to protect this heritage of tropical diversity.

The scientists of the Smithsonian Tropical Research Institute, along with students and visiting researchers, study this diversity of tropical life, the ways in which tropical organisms find food, reproduce and survive. They investigate processes of competition and cooperation between organisms and seek to understand how communities of plants and animals are organized and function.

STRI scientists address biological questions that are important theoretically and practically. They are studying, for example, the complex fundamental processes of life in a tropical forest by monitoring hundreds of sample trees and observing and recording their times of leaf production, flowering, fruiting and leaf fall. This study, among others, is revealing the variability and instability of tropical ecosystems, previously assumed to be relatively stable. Studies at STRI afford scientists the unique opportunity to probe deeply into the functioning of tropical systems. STRI biologists and mathematicians also are examining the patterns of climate. In this ongoing program they have discovered that over the last 50 years the average annual rainfall at Barro Colorado Island has declined significantly. This is correlated with deforestation in the central part of the Isthmus of Panama. The decline in rainfall has important biological implications, including the potential loss of important tropical plants and animals, and could have profound economic effects since many commercial and medicinal products used in the temperate zone are dependent on the fauna and flora of the tropics.

Long-term studies are conducted also at STRI marine laboratories on the Atlantic and Pacific coasts of Panama. Since these facilities are less than an hour's drive apart, scientists make two ocean comparisons routinely. The program of long-term studies is enhanced greatly by the new seawater system built at Naos Island on the Pacific Coast in FY 1980. This new system, which permits animals from both oceans to be kept under controlled conditions with no risk of interoceanic contamination, will be a research asset to visiting scientists from the United States and elsewhere and serve to attract scholars to STRI to pursue their marine studies. Apart from interoceanic comparison, greater understanding of the complexity of tropical life also comes from STRI's program of comparative studies. Under the program the same STRI scientists work in different regions

and make comparisons between mountain plants in South America, East Africa and Papua, New Guinea. These have shown striking similarities in form and function despite geographical and geological differences. In FY 1981, STRI scientists worked in 16 different countries.

The imparting of scientific information to a variety of lay and specialized audiences continues to be an important aspect of STRI's research and education efforts. The results of research are transmitted by publication of reports, articles and books. In FY 1980, over 140 reports and articles were published and made available to the international scientific community by researchers at STRI facilities. In addition, the STRI staff in the last year authored books on such diverse topics as orchids of the world, the ecology of leaf-eating animals, the prehistoric past of Panama, the biology of octopuses and squids, and the distribution of insects in the forest canopy. A vigorous and timely publishing policy is an integral part of all scientific programs at STRI. The results of research also are disseminated by participation at seminars and at international conferences where STRI scientists continue to present their research results.

Although STRI is a basic research organization, it is located in an area where economic development is rapid, environmental changes are sweeping and human population pressures are high. Its expertise in tropical biology enables it to provide scientific advice on many of the problems encountered by most developing tropical countries. STRI maintains formal cooperative agreements with a number of national institutions, particularly in Panama and Colombia. STRI scientists are involved in the education and training of tropical biologists in many fields of specialization. Last year, the Institute directly supported the training of 34 biologists from the United States and elsewhere and provided logistic support and facilities for many more. In the same period STRI hosted more than 1,000 scientific visitors, mainly from the United States but with increasing numbers from Latin America. These visitors represented more than 90 universities in dozens of different countries. Applications to conduct research at STRI facilities now exceed the available living and laboratory space for five months of each year, and this use is expected to continue to increase.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of one position and \$128,000 is requested for a variety of purposes including publications support, building and facilities management, vehicle and equipment replacement and the addition of a diving safety officer in support of research.

Publication Support (\$37,000) - During FY 1980, STRI scientific staff, long- and short-term fellows, and visiting investigators carried out research in Panama and other parts of the new and old world tropics on a wide variety of biological and related subjects. Over 140 reports, articles and books resulting from this research were published last year. STRI has always encouraged research scientists to publish and disseminate the results and conclusions of their research to audiences of their peers and to the general public. In addition, in response to the need to make tropical research available to the Spanish-speaking tropical nations, an increasing number of research reports have appeared in Spanish as well as English. In FY 1980, STRI completed the preparation and translation of a series of key research papers published over the last 15 years that will be published as a collection in Spanish.

An additional amount of \$37,000 is required to fund higher publication costs in order to meet the increased level of manuscripts produced and published by STRI's scientific staff and to fund new bilingual publication needs and support distribution to Latin American libraries. (Funds of approximately \$35,000 are presently available in STRI's base for publications.) The cost of publishing long-term studies and major monographs is becoming increasingly expensive. Without additional funding STRI will be required to delay publication of the results of its important research.

Buildings and Facilities Management (\$26,000) - An increase of \$26,000 is requested for buildings and facilities management and increased utilities costs. Of the total amount sought, \$11,000 will be used to hire a part-time or to contract for an electrician who will be responsible for maintaining, repairing and improving the electrical systems in STRI buildings. These facilities, some of which are almost 50 years old, have never had systematic electrical maintenance. Deteriorated wire and obsolete electrical fixtures present hazards of shock and fire to staff and visitors. A part-time staff electrician will allow the Institute to replace or improve the electrical systems to meet current safety standards. A further amount of \$15,000 is required to meet the increasing costs of utilities which must be purchased from Panamanian commercial sources. Steadily rising costs of fuels have forced utility companies to increase rates which currently exceed those charged in the United States.

Vehicle, Boat and Marine Equipment Replacement (\$50,000) - An additional amount of \$50,000 is requested to allow STRI to establish a vehicle replacement program, and to purchase a launch and marine equipment. Of the \$50,000 being sought, \$13,000 will permit the scheduled replacement of carry-all type vehicles, many of which are 10 years old and no longer serviceable. These vehicles, which are used extensively for research and administrative purposes between the laboratories and marine facilities which are dispersed throughout STRI, have become unreliable and in some cases unsafe. A phased replacement program with new fuel efficient and economical vehicles will reduce substantially maintenance and operating costs. An amount of \$30,000 will be used to purchase a passenger launch to transport personnel, food and scientific supplies between the mainland and the Barro Colorado Nature Monument. The current launch is an 11 year old whaler which has been rebuilt and overhauled several times but which no longer can provide in a reliable way vital services to the Island. Funds of \$7,000 are required to replace a scuba tank compressor used extensively in marine research. Divers rely on this compressor for the proper operation of diving tanks and any failure in an underwater situation could have serious consequences.

Diving Safety Officer (\$15,000) - Finally, an increase of one position and \$15,000 is requested for a diving safety officer. This position is needed urgently in support of marine scientists who conduct underwater research. This function is currently being carried out by a staff scientist who cannot provide the proper training or guidance to all the staff and visiting scientists conducting marine research at STRI. In addition to providing instruction and refresher training in the safe methods of diving, the officer also will be responsible for diving and marine equipment maintenance, the safe use of boats and motors and the care of the collections of marine animals and organisms in the seawater system on Naos Island.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources, including receipts and collections from users of Barro Colorado Island Nature Monument facilities, and allotments, particularly those from the Institution's Collections Acquisition, Scholarly Studies and Education Program. Expenditures under that Program totaled \$113,000 in FY 1980, and supported training in tropical biology, fellowships, field research, and environmental and research education in the tropics. Expenditures under this Program have not been recorded for FY 1981. This explains the variance in the totals shown between FY 1980 and FY 1981 and FY 1982. The Smithsonian Tropical Research Institute can expect to receive and spend funds made available through this Program in FY 1981 and in FY 1982. Funds are also used to finance visiting scientists and students, field research, seminars, lectures, and to defray the costs of representational expenses at international scientific colloquia and ceremonial occasions.

Restricted Funds - Funds provided here are in the form of restricted endowments which specify the use of the donation or bequest and of gifts and foundation grants by individuals, organizations or corporations for specific purposes. These funds are used to support scientific research related to the biological, ecological and behavioral processes on which tropical ecosystems are organized; to support research related to geophysical events; and to support studies relating to endangered tropical environments. For example, the Becker Endowment Fund (estimated expenditures of \$14,000 in FY 1981 and \$15,000 in FY 1982) supports multi-year research on the natural reforestation of an earthquake devastated forest on the Panamanian/Colombian border. In FY 1981, continuing support from the EXXON Corporation will be used to support short-term tropical biology fellowships and assistantships for students from developing Latin American countries under the supervision of the Smithsonian Tropical Research Institute's scientific staff (estimated expenditures of \$20,000 in FY 1981 and \$30,000 in FY 1982).

Federal Grants and Contracts - Funds projected for FY 1981 (estimated expenditures of \$350,000) from the National Science Foundation to construct additional dormitory space at the Barro Colorado Island Nature Monument for visiting scientists are no longer anticipated. No new funds are anticipated for FY 1982.

RADIATION BIOLOGY LABORATORY

(Dollars in thousands)

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	49	1,837	--	--	--	89	1	22	3	97
FY 1981 Base	49	2,003	--	--	--	1	1	33	1	32
FY 1982 Estimate	51	2,266	--	--	--	3	-	23	1	29

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	49	2	51
Number of Other Positions.....	0	1	1
11 Personnel Compensation.....	1,112	73	1,185
12 Personnel Benefits.....	108	8	116
21 Travel & Trans. of Persons.....	13	2	15
22 Transportation of Things.....	2		2
23 Rent, Comm. & Utilities.....	250		250
24 Printing and Reproduction.....	3		3
25 Other Services.....	65	5	70
26 Supplies and Materials.....	211	51	262
31 Equipment.....	239	124	363
Total	<u>2,003</u>	<u>263</u>	<u>2,266</u>

Analysis of Increase

Necessary Pay.....	21
Inflation.....	56
Program Funds.....	186

ABSTRACT: Light is a major factor in the environment for controlling the growth and development of plants. The Radiation Biology Laboratory monitors the quality, duration, and intensity of light in the natural environment, developing multi-year data banks of seasonal and annual trends. In addition, the Laboratory has pursued the identification of the pigments in plants and animals responsible for the absorption of light. Using controlled environments that simulate the natural light conditions, the nature and extent of the influence of light on biological systems can be determined. There is a continuing increase in requests from scientists, research institutions and the general public for such data in regulatory biology, environmental biology, and radiocarbon dating. For FY 1982, an increase of two positions and \$186,000 is requested consisting of: (1) two positions and \$166,000 to undertake a project designed to determine the biological effects of observed changes in ultraviolet energy on plant growth under controlled environmental conditions; and (2) \$20,000 to purchase a disc

display writer for the Laboratory's magnetic card typewriter to facilitate the production of scientific manuscripts for publication. Necessary pay in the amount of \$21,000 is required for existing staff and an amount of \$56,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM: The research of the Laboratory consists of three principal areas: (1) regulatory biology, (2) environmental biology, and (3) radiocarbon dating. Since its inception in 1929, the Laboratory has pioneered research into the determination of the color quality and quantity of visible and near visible sunlight, coupled with measurement of its influence on growth. The present photobiology experimental program is of greater scope than in any other single laboratory in the world. The Laboratory has been credited with major contributions in the field of photobiology, several first achievements in action spectroscopy, and the development of primary standards for the measurement of solar energy.

The production of stored chemical energy by photosynthesis is basic for all life on earth. The use of this energy is controlled by signals from the environment. A primary objective of the Radiation Biology Laboratory has been to explain the influences of the various factors in the environment -- light, temperature, humidity, and atmospheric content -- on growth and development and to characterize the molecular mechanisms through which these signals operate.

This aim is accomplished by studying these environmental influences on plant growth and development in the laboratory under controlled conditions, using biochemical, biophysical, and physiological techniques, and then verifying the importance of these processes in nature by monitoring the natural, changing environment. An example of response to relevant environmental concerns has been the measurement of productivity of an estuarine marsh in the Chesapeake Bay. Similarly, measurements have been initiated to determine the penetration of sunlight into an aquatic environment in the Bay and, also, through a tropical forest canopy in Panama. These data can be used to assess the productivity of these diverse natural environments and to provide predictive estimates of their responses, either man-made or natural, to changes in the environment. Such programs of research are by their very nature long-term and require the concerted team efforts of many scientific disciplines. Disciplines represented at the Radiation Biology Laboratory include physiology, cytology, biochemistry, biophysics, physics, engineering, electron microscopy, and morphology.

Major accomplishments in FY 1980 include the following:

1. Confirmation that the ultraviolet values can be used to determine ozone trends to a very high degree of accuracy. The Radiation Biology Laboratory has been collecting such data for two years, using ultraviolet-B integrating radiometers developed at the Laboratory.

2. Demonstration that increased photosynthetic utilization by crop plants of very short light flashes (less than 100 milliseconds) due to the transmission of light through successive leaf layers is dependent upon the spectral quality of the light. This conclusion shows that color quality is the most important variable in growing plants in an artificial environment.

3. Observation that the sensitivity of flowering in barley to the presence of far-red energy in the environment varies over the course of a day by a factor of fifty and is controlled by an endogenous circadian rhythm, thus providing evidence that the quality of light effects flowering time.

4. Indication that the rate of salt marsh peat development along the coast of Maine indicates a rapid rise in the sea level between 1,500 to 5,000 years ago and the rate of rise has decreased since then. This suggests the locations of ancient settlements along the coast were shifted inland as the sea level rose.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of two positions and \$186,000 is requested.

The major portion of the proposed increase, two positions and ^{115,000}~~\$166,000~~ is sought to carry out a major project that could have significant impact on regulations concerning the environment.

The reduction of stratospheric ozone by man's release of halocarbons and other chlorinated compounds, such as spray propellants, refrigerants, and other industrial contaminants results in increased ultraviolet-B radiation reaching the surface of the earth. The effect of increased ultraviolet radiation on the biosphere is agreed generally, to be detrimental. However, the degree of the damage that will result has not been quantitatively determined. The Biology Laboratory has been monitoring ultraviolet-B for the last several years. Using these data as baseline information, the Laboratory is proposing a project that is designed to assess the influence of increases in ultraviolet-B radiation on terrestrial plants. This research will be performed under controlled environmental conditions in which only the amount of ultraviolet-B radiation will be altered. Changes in plant growth, such as fresh and dry weight production, stem length, and leaf shape, pigment concentration, and time of flowering will be measured and correlated with the amount of ultraviolet energy. The information derived from these experiments will enable regulatory agencies such as the Environmental Protection Agency to have appropriate and valid data to reduce harmful effects of chlorofluorocarbons that would provide appropriate protection to the environment and not excessively burden the economy or industry. To conduct these experiments and to assess the significance of altered growth patterns, full-time positions for a plant physiologist and a physical science technician and a part-time position for a biological laboratory technician are required. In addition to these new positions which will require an amount of \$60,000, funds of \$106,000 are needed for essential supplies and equipment for the project. The supplies consist primarily of lamps and transmission filters for obtaining the ultraviolet energy; the equipment needed is for irradiation (constant current) monitoring systems and for the measurement of growth responses. Further, to analyze and evaluate the results of the ultraviolet-B research, it will be necessary to update and increase the Laboratory's data processing capabilities with the addition of two remote terminal display modules and additional data storage.

A further amount of \$20,000 is sought to update the Laboratory's magnetic card typewriter with a disc display writer. The disc display writer will help in the timely submission of scientific manuscripts, including those describing the biological effects of radiation. The additional equipment is well-suited for rapid publication especially in producing the tables of scientific data in camera ready form. The use of normal typesetting techniques for printing require two additional proofreadings which result in substantial delays in publication with increased chance of error.

Funds of \$50,000 were provided in FY 1981 specifically for the purchase of a circular dichroism spectrophotometer. This instrument has been purchased. Using the equipment funds of \$50,000 provided in FY 1981 for the spectrophotometer, the Laboratory proposes to acquire a photon counting spectrofluorometer in FY 1982. This equipment will provide information about the efficiency of

energy transfer between pigment molecules. A sensitive fluorometer also permits experiments to be done that cannot be performed with available standard absorption instruments owned by the Radiation Biology Laboratory. In addition, the new instrument provides specific data about the molecular microenvironment in which the pigments exist.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived mainly from the Institution's Collections Acquisition, Scholarly Studies and Education Program and the Fellowships and Visiting Scholars Program (administered by the Office of Fellowships and Grants). Expenditures for these Programs, totaled \$83,000 in FY 1980. Estimated expenditures for the fellowships program for FY 1981 and FY 1982 are included in the nonappropriated Trust fund section of Academic and Educational Programs. This is in recognition of the fact that the Radiation Biology Laboratory's (RBL) Fellowships and Visiting Scholars Program, like all Smithsonian fellowship offerings, is the direct responsibility of the Office of Fellowships and Grants for policy and management purposes.

Restricted Funds - Funds are provided here through donations, bequests, and foundation grants which are designated for specific subjects of investigation. For example, the Eppley Foundation grant is used to support investigation of biological responses to solar radiation (projected expenditures of \$18,000 in FY 1981 and in FY 1982); the Rollins Endowment Fund is used to support the study of the physical measurements of radiation (estimated expenditures of \$5,000 in FY 1981 and in FY 1982); and other contributions used to support research conducted jointly by the National Museum of Natural History/Museum of Man, the Chesapeake Bay Center and RBL for determining the relation of light penetration and productivity in the Chesapeake Bay (estimated expenditures of \$10,000 in FY 1981).

Federal Grants and Contracts - These funds are provided by various agencies and departments for special projects that can be conducted at RBL because of its specific expertise and unique facilities. Examples of Federal contract support are the Department of Energy's support of research on membrane-associated pigments of algae involved in photosynthesis (estimated expenditures of \$26,000 in FY 1981 and in FY 1982) and support of the project in which flashing light is used to study the rate of photosynthesis in plants (expenditures of \$66,000 in FY 1980). A contract from the National Aeronautics and Space Administration supports a study measuring ultraviolet radiation received at the earth's surface which is correlated with the effects of material degradation due to exposure to sunlight (projected expenditures of \$3,000 in FY 1981 and in FY 1982). RBL anticipates the level of grants and contracts funding to remain relatively constant.

NATIONAL AIR AND SPACE MUSEUM

(Dollars in thousands)

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	222	0	222
Number of Other Positions.....	0	2	2
11 Personnel Compensation.....	4,433	138	4,571
12 Personnel Benefits.....	434	13	447
21 Travel & Trans. of Persons.....	34	1	35
22 Transportation of Things.....	17	1	18
23 Rent, Comm. & Utilities.....	50	2	52
24 Printing and Reproduction.....	178	16	194
25 Other Services.....	657	84	741
26 Supplies and Materials.....	395	29	424
31 Equipment.....	284	35	319
Total	<u>6,482</u>	<u>319</u>	<u>6,801</u>

Analysis of Increase

Necessary Pay.....	91
Inflation.....	108
Program Funds.....	120

ABSTRACT - The National Air and Space Museum (NASM) was created by Congress to memorialize the development of aviation, space flight and space science; to collect, preserve and exhibit aeronautical space flight and space science artifacts of historical and technical significance, as well as the art which relates to these subjects; and to serve as a repository for documentary materials and as a center for research into air and space history. For FY 1982, an increase of \$120,000 is sought, consisting of: (1) \$90,000 to expand research programs in aeronautics and space applications and the interpretation of data from space exploration programs; and (2) \$30,000 for additional maintenance help required because of heavy visitation to the NASM Building. An amount of \$91,000 is

required for necessary pay for existing staff and an amount of \$108,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The National Air and Space Museum has been visited by more than 43,000,000 visitors since it opened to the public on July 1, 1976. NASM conducts active programs in the areas of exhibitions, research, education, and collections management. These programs have produced very exciting results in a very short time span; plans for FY 1981 and FY 1982 promise to continue to add to the excitement of the Museum and the vitality of its programs. The Museum's popularity has been sustained by the creation of new exhibitions, paying attention to the desires of the public and relating the exhibitions to the past, present and future. Each exhibition is designed to reach various segments of the public through carefully researched, written and designed labels. Furthermore, many exhibitions involve the active participation of the visitor.

In FY 1981, the Museum will open "A Gallery of Jet Aviation" which will trace the evolution of military and commercial technology and note its commercial, social and economic effects on society. Three other exhibitions are scheduled for FY 1981. These consist of an exhibit on the space shuttle; an exhibit highlighting the role of Mr. James Webb, the administrator of the National Aeronautics and Space Administration during the historic lunar programs; and a special showing of the Speizer Collection of realistic aviation art.

Complementing major gallery activity in FY 1981 are several important additions to existing galleries. These include a revision to the West Gallery to provide visitors with close up views of some of its most popular aircraft, including the shark mouthed Curtiss P-40 Warhawk of Flying Tiger fame. Several other galleries received significant improvements. The General Aviation Gallery was revised to include a cut-a-way Beech Bonanza, and the Balloons and Airships Gallery was changed in order to show the gondola and lower portion of the balloon of the "Double Eagle II," the first balloon to successfully cross the Atlantic Ocean.

In FY 1982, the major new planned exhibition will concern "Energy and the Sun." The exhibition will deal with the sun as an object of astronomical study and as the provider of energy to the Earth's oceans, winds, and life. It will include applications of aerospace technology which use solar energy ranging from windmill airfoils to direct conversion of sunlight to electricity. Also in FY 1982, the Art Gallery will feature a collection of Chesley Bonestell paintings which foretold, often with surprising accuracy, the shape of spacecraft and the features of other planets. The "People" exhibit planned for next year will salute the late Jacqueline Cochrane, the famous woman aviation pioneer. And, toward the end of the fiscal year, the Museum will open an exhibit commemorating 25 years of space flight. While the emphasis will be on United States activities, the important contributions of other nations will be shown as well.

The Museum's two films, "To Fly" and "Living Planet," continue to draw capacity crowds; "To Fly," which opened on July 1, 1976, has been seen by more than five and one-half million people, and "Living Planet" has been seen by two million people since its opening in April 1979. A new planetarium show "New Eyes on the Universe" opened in the Museum's Albert Einstein Spacearium in May 1980. The show offers in an entertaining yet enlightening format, information on the various ways used by astronomers to view the universe.

The Museum's major basic research entity, the Center for Earth and Planetary Studies, continued to perform fundamental scientific studies in comparative planetology. Based on interpretation of photographs, significant correlations

are found among the surface features of the Earth, the Moon, and the terrestrial planets: Mercury, Venus and Mars. Scientists make interpretations which shed light on the geologic history of these planetary surface features using satellite photographs to interpret their origins and to determine similarities or differences in their history and evolution from a geomorphological viewpoint.

Comparisons between the deserts of Earth and Mars, which will be conducted in FY 1981, will add to the existing body of knowledge and serve as an important basis for a better understanding of the desertification process, a critical environmental problem, that is occurring in many areas of the world. A significant new effort in FY 1982 will be the use of meteorological satellite data to monitor terrestrial variations in the desert environment. Collection of wind data and other meteorological factors by automated means will be facilitated by satellite monitoring.

The Center for Earth and Planetary Studies produces a wide variety of research publications alone and jointly with other agencies. A book on "Desert Landforms of Southwestern Egypt" will be published in the fall of 1981, as part of "Advances in Planetary Geology" sponsored by the National Aeronautics and Space Administration.

Other research published by the Museum in FY 1981 or in process, includes the well received Messerschmitt Me 262, Arrow to the Future, Bleriot XI, Dragon's Teeth, and Aero Engines in Museums Around the World. In FY 1982, the NASM publication program includes Prandtl-Karman and Aerodynamics in America, The Rocket Societies, Space Science Comes of Age, The Bellanca C.F., The Soviet Air Force in World War II, and U.S. Women in Aviation 1930-39.

The Museum maintains a sense of public involvement in its activities by an extensive series of presentations offered to the public, ranging from routine astronomy lectures, to seminars, to old aviation feature film presentations. These will be continued in FY 1982.

In FY 1981, the Education Services Division continued to assist and to supplement efforts of other NASM divisions to communicate the story of flight and the exploration of space to the public. The Education Services Division serves both the general public and the education community, in particular, by developing and producing tours, publications, demonstrations, lectures, seminars, workshops, and audiovisual and other educational materials. The new "Briefing Room," an area devoted exclusively to educational activities, features live demonstrations and presentations of air and space technology that are too difficult to explain in a conventional exhibit. A special emphasis is given to provide materials and learning opportunities for minority, ethnic and disabled groups.

The Division also serves audiences that are not able to visit the Museum. Extension programs such as the Regional Resource Program, Air and Space magazine and Regional Museum Assistance Program reach a large audience beyond the Mall by providing resource materials and information to existing educational networks, school systems, classroom teachers, other museums, and education organizations and societies.

The Museum's Collection Management Plan will be completely updated in FY 1981. The Plan provides a strong basis for continuing the progress already made in the storage, care and preservation of artifacts. Two large temperature and humidity controlled modular storage areas have been purchased for the storage of art objects, space suits and similar delicate materials. A third such area for storage of archival material will be added in FY 1982.

Work at NASM's preservation, restoration and storage facility in Suitland, Maryland is continuing. Restoration of the Langley Aerodrome, Bellanca C.F., Chance Vought Corsair and the Double Eagle II balloon gondola has been completed. Work continues on the large, complex Nakajima fighter, the German Focke Wulf F.W. 190, the Northrop NIM Flying Wing and the first United States production built de Havilland DH-4 from World War I.

Five buildings are now available for visitors at the restoration site, which was recently renamed the Paul E. Garber Preservation, Restoration and Storage Facility in honor of NASM's Historian Emeritus. An additional 170 major artifacts are available for public viewing, including many rare aircraft and engines.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of \$120,000 is sought: an amount of \$90,000 will be used to further research efforts in space science and exploration; and \$30,000 is needed for maintenance services.

In the past year, NASM has reexamined its research function, in order to bring this effort more in balance with its highly successful exhibition and education programs. A result of this review was a decision to strengthen the Space Science and Exploration Department which conducts research in the areas of history of aeronautics and space applications and in the interpretation of data obtained from space exploration programs. The Department presently consists of four curators in the fields of history of astronomy, geophysical science, and space technology. For the Department to function in a fully productive way, it is essential that the fields of history of meteorology, atmospheric, and planetology also be represented. Toward this goal, two vacant lower-graded positions in the exhibits program will be reassigned to the Space Science and Exploration Department in order to provide new positions for curators in planetology and atmospheric. An amount of \$25,000 is sought to cover the full salaries of these curators (an additional \$35,000 is available for these salaries as a result of the transfer of two positions from the exhibits program). A further \$65,000 is sought for temporary research assistants and for related support costs of the Department.

One result of the unexpectedly high visitor traffic to NASM--over 43,000,000 visitors in less than five years--has been the need for additional everyday maintenance. For FY 1982, an additional \$30,000 is requested for furniture repair, and window washing which will be provided on a contractual basis.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources including the Museum's share of sales in the museum shop, product development royalties, restaurant and concession fees, net proceeds resulting from bureau activities (such as the Theater and Spacearium), and small allotments. These funds are used to finance fellowships, the publication of books and the newsletter "Air and Space," guest lecturers, and special events for the opening of new exhibits. The Lindbergh Chair of Aerospace History endowment provides funds annually for a distinguished visiting scholar at the Museum. In addition, portions of the net proceeds from the Theater and Spacearium activities are being reserved for eventual replacement of the film "Living Planet" and for the general unrestricted use of the Institution. The increase in projected expenditures between FY 1980, FY 1981 and FY 1982 is related to increased normal operating expenses for the Theater and Spacearium. Also, various renovations are planned such as a new film handling room, design and modification of the lighting systems to include emergency/safety lighting

and a system to control all of the theater lighting, design and modification of the theater entrances, a computerized ticketing reservation system, and the purchase of a new projection lens and a xenon overhead projection system.

Restricted Funds - Funds are provided through donations, bequests and foundation grants by individuals, organizations and corporations for specific purposes. Examples of these funds include the Ramsey Endowment Fund which finances selected research relating to naval flight history (estimated expenditures of \$14,000 in FY 1981 and \$15,000 in FY 1982) and the German Planetarium Fund used to purchase additional equipment and provide maintenance for support of the Zeiss Planetarium machine, originally donated by the Federal Republic of Germany (estimated expenditures of \$69,000 in FY 1981). The decrease of restricted expenditures from FY 1980 to FY 1981 reflects the transfer of a general Museum fund to the Lindbergh Chair Endowment, insuring permanent support for this visiting scholar program.

Federal Grants and Contracts - These funds are provided by various agencies and departments for special projects which can be conducted at the National Air and Space Museum (NASM) because of its expertise in a given area. For example, studies in lunar and planetary research in photogeology are conducted by NASM's Center for Earth and Planetary Studies under a grant from the National Aeronautics and Space Administration (estimated expenditures of \$93,000 in FY 1981 and \$100,000 in FY 1982).

CHESAPEAKE BAY CENTER FOR ENVIRONMENTAL STUDIES

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	21	744	3	137	--	106	2	112	7	232
FY 1981 Base	22	849	3	77	--	22	--	90	7	781
FY 1982 Estimate	23	1,152	3	86	--	33	--	--	8	678

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	22	1	23
Number of Other Positions.....	4	7	11
11 Personnel Compensation.....	607	141	748
12 Personnel Benefits.....	58	14	72
21 Travel & Trans. of Persons.....	8	1	9
23 Rent, Comm. & Utilities.....	30	2	32
24 Printing and Reproduction.....	6	5	11
25 Other Services.....	56	35	91
26 Supplies and Materials.....	60	35	95
31 Equipment.....	24	70	94
Total	<u>849</u>	<u>303</u>	<u>1,152</u>

Analysis of Increase

Necessary Pay.....	15
Inflation.....	13
Program Funds.....	275

ABSTRACT - The Chesapeake Bay Center for Environmental Studies (CBCES) is a 2,600 acre natural area established to conduct research on land/water relationships and to foster public awareness and understanding of ecological systems as they might be affected by human disturbance. In recognition of the Center's unique advantages for conducting environmental research and education programs, it has been designated as an Experimental Ecological Reserve by the Institute of Ecology, and in early FY 1981, was nominated for designation as a National Estuarine Sanctuary under provisions of the Coastal Zone Management Act of 1972.

The Center's activities are divided into three categories: environmental research, education and public information, and administration and facilities management. For FY 1982, a total increase of \$275,000 is requested, consisting of: (1) \$150,000 to permit the Center's automated watershed monitoring program

to be placed back in operation; (2) one position and \$90,000 to establish a permanent data processing staff for the Center and improve existing computer capabilities; and (3) \$35,000 to provide for the replacement of aging vehicles, boats, motors and scientific equipment. Necessary pay of \$15,000 is required for existing staff and an amount of \$13,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - Environmental Research - The Center's Environmental Research Program is designed to develop an understanding of how watershed/estuarine ecosystems function and how current and historical environmental changes have affected natural and human communities in these systems. The Program is organized into three interrelated elements: upland ecology, watershed studies and estuarine ecology.

Upland Ecology - In the Upland Ecology Program, the Center's research seeks to describe the evolutionary ecology of plant and animal populations as they are affected by existing and past land use practices. A set of permanent study plots has been established on land use types characteristic of the eastern coastal plain and they are being compared for their ecological properties. In addition, the changes in land use that have occurred on these sites since the time of first settlement in the mid-1600s have been documented to provide background information for this research.

In 1981, work will be completed on a five-year study of the ecological aspects of insect populations under various land use conditions with emphasis on ants. This research has described patterns of species diversity, abundance and seasonal activity for the 60 ant species occurring at the Chesapeake Bay Center. In the final phase of the project, the importance of ants as predators and dispersers of tree seeds will be documented. The goal of this research is to describe how land use patterns affect the abundance and distribution of insects. This will enable the description of insect/plant interactions over large geographic regions without the need for detailed studies at individual sites. In FY 1981, a new project was initiated to study the effects of browsing by deer, on mature forest communities. The research will examine the extent to which deer, in densities typically found in eastern hardwood forests, affect the regeneration of young trees and thereby influence the subsequent species composition of these forests. This work will be contrasted with an ongoing project to be completed in FY 1982 which will document vegetation patterns in similar but very heavily browsed island forests in the Chesapeake Bay.

Other long-term environmental monitoring projects are being continued in FY 1981 and FY 1982 including a study of the yearly fluctuations of small mammal populations under conditions of limited foods and space; research on the competition between vines and other plants in areas recovering from agricultural abandonment; and the monitoring of long-term changes in forest communities which are attributable to year-to-year differences in meteorological conditions. The other watershed related work in upland ecology that was proposed for FY 1981 was deferred owing to a lack of funds.

Watershed Studies - The purpose of the Center's Watershed Research Program is to determine the relationship between land use and water runoff in a watershed typical of the eastern coastal plain. In this Program the Center's goal has been to monitor and analyze the constituents of rainfall, land runoff, and ground water flow in a watershed so that the effects of land use on the quality of waters entering estuaries can be determined. Most of the Center's watershed monitoring efforts have been focused on the operation of a system of 15 automated dams and gauging stations. Only three of these monitors were operated in FY 1980 due to a lack of funds. The single active watershed research project which continued in FY 1981 was supported by a grant from the

Chesapeake Research Consortium to study nutrients in tidal marsh communities. The initial phase of this project is expected to be completed in FY 1982 and will represent one of the first detailed studies of how such marsh communities influence the movement of nutrients, bacteria and other materials from watershed land areas into estuaries. The goal of this work is to provide resource managers with information documenting the ecological significance of upstream, headwater marshes so that the need for protection of the communities can be ascertained.

Although the scope of the watershed project was reduced greatly, summaries of prior research efforts were published in FY 1981. The most important of these is a compendium of all environmental monitoring work undertaken at the Center since 1970. This publication is expected to be used widely by state and Federal agencies concerned with water quality and land use issues and will be the only source of intensive long-term watershed data in the coastal United States. Also anticipated for completion in FY 1981 is the Center's five-year research program on agricultural herbicides. Final reports will be published on the biological effects of these compounds on submerged aquatic vegetation in the Chesapeake Bay, as well as several other publications documenting the movement of herbicides from agricultural fields into estuarine waters.

Estuarine Ecology - The goal of the Center's Estuarine Program is to determine how land runoff, which has been characterized in upland ecology and watershed monitoring studies, affects estuarine receiving waters. In particular, Center scientists have been examining how the quality, quantity and seasonal occurrence of land runoff affects important estuarine fish and shellfish populations, and how the basic high productivity of estuaries is sustained. In FY 1981, surveys were continued of the spawning success of white and yellow perch in estuarine waters, the only place on United States east coast where this work is being done on a long-term basis. The ultimate goal of this project is to determine the relative importance of natural versus man-made factors in year-to-year changes in the abundance of fish. If watershed monitoring funds are available in FY 1982, the Center proposes to construct a permanent fish sampling station in the headwater area of the Rhode River estuary so that a more detailed analysis can be made of the spring spawning runs of a number of species and the extent to which juvenile fishes return to the estuary in the summer. Substantial progress was made in FY 1981 in characterizing oyster and clam communities in the Rhode River estuary and a publication of this work is expected during the year. Basic water quality monitoring in the Rhode River estuary, started in 1970, was continued in a cooperative project with the United States Geological Survey.

A project initiated in FY 1980, and to be completed in FY 1982, was funded by the Smithsonian Scholarly Studies Program and is a joint effort between CBCES and Radiation Biology Laboratory scientists to monitor light penetration in estuarine waters and to determine the effects of light on the growth of phytoplankton and submerged aquatic plants. Results of this project should improve substantially our understanding of factors contributing to estuarine productivity.

Education and Public Information - Education and public information activities at the Center have as their goal the improvement of the quality and effectiveness of nonformal education, particularly outdoor environmental education, and the achievement of maximum application of the Center's research findings by interested agencies and the general public. The Program seeks to understand better the effects of out-of-school learning experiences for both children and adults; to develop educational materials which illustrate general principles of science and ecology; to develop semitechnical reports which illustrate the significance of the Center's research findings for environmental planning and

management issues; and to provide increased opportunities through public programs for learners of all ages to increase their understanding and appreciation of the environment.

The Center's Program is unique in its concern for informal or out-of-school science education activities. This emphasis was designed to help offset declining scientific literacy in the school systems by providing greater educational opportunities in existing informal settings such as museums, nature study centers and camps, and in the family home environment.

In FY 1981, the Center's education staff completed developmental work on a project designed to make opportunities available for parents to conduct science education activities for their own children outside the school setting. The activities developed have been field tested and publication and distribution of materials is being planned for FY 1982. In a related project, similar activities have been developed and tested for pre-school children and their parents.

Another project completed in FY 1981 was a study conducted in cooperation with the Smithsonian's National Zoological Park to determine how introductory orientations for school children can enhance field trip learning at zoos, nature centers, and other informal learning settings. With the aid of techniques previously developed at the Center, a new project was initiated in 1981 in cooperation with the British Museum of Natural History where observations of visitors were used to characterize the degree of learning in museum settings. (The technique of unobstructive observation used in the project provides a relatively simple and inexpensive method for assessing the educational value of particular museum exhibitions and displays.) This work will be published in 1982. Research was continued on evaluating the learning experience received by children as a result of their participation in the Center's school tour programs. The project, conducted over the last five years, will be completed in FY 1981 and final project results will be published in FY 1982. This work will be disseminated widely to environmental education institutions.

In FY 1981, the Center's public information staff published a bibliography of research conducted at CBCES since its inception in 1965 which will supplement the summary of environmental monitoring data also to be published during the year. This document will be updated periodically and has been distributed widely to interested Federal and state agencies and to segments of the general public. Other public information activities include the publication of a newsletter which summarizes information about the Center for use by the general public; the design of a new series of adult tour programs; participation in a variety of public workshops and conferences dealing with environmental issues affecting the Chesapeake Bay; and outreach assistance to various citizen organizations in conducting education programs.

Finally, a series of articles in environmental psychology was published in FY 1981 which explore people's preferences for various natural landscapes.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of one position and \$275,000 is sought to reestablish the operation of the Center's watershed monitoring system; to strengthen the data processing capability of the Center; and to provide base funding for a capital equipment replacement program.

Watershed Monitoring (\$150,000) - An amount of \$150,000 is requested to permit the Center to continue the operation of its full watershed monitoring system. In FY 1981, an amount of \$200,000 was sought to establish base funding for this program, but only \$50,000 was appropriated. Because of the crucial importance of the project to the Center's entire scientific effort, funds to establish the required base of \$200,000 are sought again.

The Chesapeake Bay Center was established to develop an understanding of the basic characteristics of estuaries which are the most productive bodies of water in the world for fish and shellfish production. Estuaries are areas where fresh water from the land and salt water from the sea mix and interact. The Center's Watershed Monitoring Program is, therefore, of fundamental importance in assessing the quantity and quality of the fresh water component of estuaries. Without this system in operation, the principal research function of the Center would be eliminated.

The monitoring system is made up of 15 small dams and automated water collecting and sampling equipment which are used to analyze land runoff for concentrations of nutrients, such as nitrogen and phosphorus, and for sediments, bacteria, trace metals and pesticides. This model system was built between 1972 and 1979 with short-term grants and contracts. The Center is the only site in the United States where continuous data have been available on the effects of runoff from agricultural, residential and forested land on coastal waters. These data have been used throughout the mid-Atlantic region by state and Federal agencies that do not have a watershed data collection program in order to assess how land use affects water quality. In addition, this information has been used elsewhere in the United States for testing and verifying models which seek to predict future changes in water quality.

The proposed increase in funds for watershed studies in FY 1982 also will allow the center to conduct specific projects. For example, one project is designed to determine how differing land use conditions affect the development or loss of soil fertility. Special emphasis will be given to the ways in which long-term agricultural usage has altered nutrient levels in soils and the processes by which these soils are restored under natural vegetative conditions. Another will permit the initiation of research on the effectiveness of vegetation buffer strips in preventing excessive nutrient discharges from agricultural lands; the monitoring of land runoff from residential and commercial communities into estuarine waters; and the resumption of basic watershed monitoring so that long-term trends in the quality of land runoff can be documented.

The cost of the Watershed Monitoring Program is based on two factors: 1) the need to operate 10 small dams and samplers so that each of the significant tributary streams draining the Rhode River watershed are monitored; and 2) operation of five additional samplers on control watersheds so that the results will be statistically significant. The requested funds will support five term technicians who will collect samples at the 15 monitoring stations, analyze them in the laboratory, and assist in the development and preparation of reports for use by other scientists and for state and Federal regulatory agencies. Funds also will be used for the repair and maintenance of the electronic monitoring equipment at the stations and the periodic replacement of dams which are damaged occasionally during floods.

Data Processing and Management (\$90,000) - One position and \$90,000 are requested to establish a scientific data processing staff at the Center.

The Center's data processing capability was developed in the early 1970s with the acquisition of a small programmable calculator system. While this equipment functioned satisfactorily at that time, the Center's research program increased substantially in the following years, and by 1978, severe delays appeared to be occurring in the processing of data. In an internal review of the problem it was discovered that, on the average, 30 to 36 months were required to complete the processing and analysis of data for publication, compared with a typical processing time of four to six months in other environmental research institutions. As a result, the preparation of data reports for use

by the Federal and state agencies for their regulatory and planning purposes was being delayed by as much as three years and similar lapses were occurring in scientific publications. In response, in FY 1979, an outside consultant was contracted to examine the adequacy of the Center's data processing hardware and its staff and working procedures. The study report was completed in FY 1980. It projected that a tenfold increase would occur in the amount of environmental measurements taken at the Center between 1979 and 1986, and concluded that the capacity of the existing calculator system would be exceeded in 1980 and that subsequent data could not be processed, stored, and statistically analyzed with a staff of only one part-time person. The CBCES has attempted to implement partially the consultant report recommendations by acquiring a minicomputer in FY 1981 with a private foundation grant and purchasing some software to service the needs of investigators working at the Center under the Smithsonian's International Environmental Sciences Program. This computer has the capacity to handle the projected data load at the Center for the next 10 years.

While the physical capability of the Center's data processing hardware has been brought up to that of a first-class environmental research institution, there still remains the problem of adding staff for programming, organization and management of the data processing facility, and the modeling of environmental data. Accordingly, an amount of \$90,000 is sought for one full-time permanent, and two term positions and associated supplies. The first is a permanent position for a programmer whose function will be to store, process and prepare for analysis all the scientific data collected in the Center's research program. This is a key position because it permits the Center's scientific staff to access and use the computer facilities. Secondly, one term position is requested for a senior data manager so that the Center can develop an overall plan and working procedures for the data processing facility. In addition to these responsibilities the individual would also prepare operating manuals, establish a system of priorities for computer use, act as liaison with computer facilities at other environmental research centers and plan for the automation of nonscientific services at the Center including accounting, mailing lists, and the production and dissemination of reports. The Center's goal in establishing the positions of programmer and data manager is to reduce the time for actual data collection to publication from 36 months to less than four months.

The third position requested is a term appointment for a biological modeler. The function of this position will be to synthesize the massive amounts of environmental data collected at the Center since 1971 so that this information can be made more useful to other scientists conducting environmental research. The Center's research program has in the past been criticized by outside evaluators on this account because it did not have the capability to conduct sophisticated analyses of data to determine relationships between environmental factors and plant and animal populations. For example, while the center has an excellent long-term record of water quality in the Rhode River of the Chesapeake Bay, it has not had the modeling expertise necessary to analyze statistically subtle changes in water quality conditions which have the potential for affecting fish, shellfish and other aquatic organisms.

Equipment Replacement (\$35,000) - Funds of \$35,000 are requested to be made available to establish a program for the periodic replacement of major items of capital equipment at the CBCES, including vehicles, boats, motors, and scientific equipment.

The Center maintains between 14 and 16 vehicles which are used by the scientific, educational and maintenance staff. These include sedans, trucks, tractors, and off-road vehicles. By the end of 1981, the average age of the vehicle fleet will be 9.3 years. The Center proposes to begin a program of

regular replacement of this equipment to reduce the increasing repair and maintenance costs and to prevent disruptions of the Center's substantive programs during frequent periods of vehicle breakdown. Similarly, the Center maintains 10 small boats and motors which are used by the staff for local research purposes and two large vessels for work on the Chesapeake Bay. In addition, nearly \$300,000 worth of scientific equipment has been purchased over the last nine years and no funds are available for their replacement or upgrading. These include spectrophotometers and other sophisticated analytical equipment which are crucial to the continued operation of the Center's scientific programs. The amount of \$35,000 requested for the capital equipment replacement was derived by developing a five year replacement schedule for specific vehicles, boats and scientific equipment and by estimating the average annual costs associated with their acquisition.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by allotments and are used to support the summer ecology program, the work/learn program for graduate and undergraduate students studying at the Center, and the salary costs of a docent coordinator, and an environmental information specialist whose function is to disseminate to the public the results of research conducted by the Center's staff. Funds from the Institution's Collections Acquisition, Scholarly Studies and Education Program which totaled \$72,000 in FY 1980, have not been recorded for FY 1981. This explains the variance in totals shown between FY 1980, FY 1981, and FY 1982. The Chesapeake Bay Center can expect to receive and spend funds made available through this Program in FY 1981 and in FY 1982.

Restricted Funds - Funds are provided through donations and foundation grants from individuals, organizations and corporations for specific purposes. Examples of these funds include a grant from the Knapp Foundation to be used for watershed monitoring (estimated expenditures of \$87,000 in FY 1981).

Federal Grants and Contracts - These funds are granted from various state and Federal agencies for work to be carried out at the Chesapeake Bay Center; this work can be carried out best here because of the expertise of the Center's staff and its site characteristics. Examples of such grants in FY 1981 and FY 1982 are those from the Maryland Department of Agriculture for a study of "The Impact on Open Marsh and Water Management on the Ecology of Chesapeake Bay High Marsh Vegetation" (estimated expenditures of \$29,000 in FY 1981) and from the Chesapeake Research Consortium for a project on "Nutrient Dynamics in the Rhode River Ecosystem" (estimated expenditures of \$240,000 in FY 1981 and \$249,000 in FY 1982). A grant is anticipated from the National Science Foundation for "Science Activities for Informal Learning" (estimated expenditures are \$120,000 for FY 1981 and \$60,000 for FY 1982).

NATIONAL ZOOLOGICAL PARK

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	327	8,521	1	38	--	152	--	24	3	96
FY 1981 Base	327	9,271	1	30	--	54	--	26	1	263
FY 1982 Estimate	328	9,568	--	8	--	57	--	29	1	167

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	327	1	328
Number of Other Positions.....	30	2	32
11 Personnel Compensation.....	7,182	147	7,329
12 Personnel Benefits.....	704	14	718
21 Travel & Trans. of Persons.....	26	2	28
22 Transportation of Things.....	14	1	15
23 Rent, Comm. & Utilities.....	102	7	109
24 Printing and Reproduction.....	16	2	18
25 Other Services.....	125	9	134
26 Supplies and Materials.....	887	100	987
31 Equipment.....	182	13	195
Acquisitions for collections...	31	2	33
42 Insur. Claims & Indem.....	2		2
Total	9,271	297	9,568

Analysis of Increase

Necessary Pay.....	112
Inflation.....	98
Program Funds.....	87

ABSTRACT - The National Zoological Park (NZP), established by Congress in 1890, maintains a large and varied animal collection for exhibition and study. The Zoo serves the informational and educational needs of the public and conducts research, conservation and animal health programs on 150 acres in Washington's Rock Creek Valley and on a 3,150 acre Conservation and Research Center at Front Royal, Virginia. For FY 1982, an increase of one position and \$87,000 is requested for several purposes, including: (1) \$40,000 to provide adequate support for newly constructed exhibits; (2) one position and \$19,000 to improve the maintenance of the vehicle fleet at the Conservation and Research

Center; (3) \$15,000 to provide additional staff for the Bird Complex at the Conservation and Research Center; and (4) \$13,000 to upgrade the equipment in Pathology and Research laboratories. Necessary pay in the amount of \$112,000 is required for existing staff and an amount of \$98,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - In 1890, Congress established the National Zoological Park for the "advancement of science and the instruction and recreation of the public." To accomplish this mandate, the Zoo maintains in the Rock Creek facilities a live collection of approximately 2,000 animals comprising 430 species. Species are selected for their potential for exhibition and educational value, as well as for their basic research significance including the conservation of endangered species. Exhibits are grouped taxonomically to show variety of physiology, behavior and evolution and are designed to place animals in an environment as similar as possible to their natural habitats. There are also over 350 animals, comprising approximately 46 species, at the Zoo's Conservation and Research Center at Front Royal, Virginia. Selection of these animals is made by a committee of Zoo scientists and veterinarians based on criteria which would best provide for long-term breeding of animals whose present captive populations are small or unstable or whose natural habitat is threatened or endangered. The Zoo also maintains information, education and visitor service programs for the public, with emphasis on school groups, the handicapped, senior citizens and families in general.

Animal Management - The primary long-range objective of the National Zoo is the continuing development of a collection which is essentially stable and self-sustaining in order to minimize the future taking of animals from the wild. The Zoo staff of keepers, curators, veterinarians, researchers, and support personnel work towards the goal of improving the health and longevity of captive animals by means of improved animal facilities, expanded medical care, with emphasis on preventative medical programs and a highly trained keeper staff. Continued monitoring, observation, and research of the animals help to develop insight and information on proper conditions for reproduction and dietary health.

The renovation of the Reptile and Small Mammal Buildings, scheduled to reopen in summer and winter of 1981 respectively, and the development of the Monkey Island Exhibit, scheduled to open in the spring of 1982, will permit the placement of the small mammal and reptile populations in a more natural setting with modernized support systems. In the spring of 1981, the Zoo will open the totally new Great Ape House. This 20,000 square feet structure will provide prototype housing for orangutans and gorillas, the Zoo's most heavily visited primates. The building will provide the animals with interior glass-fronted habitat spaces and spacious exterior yards with viewing across open moats or through glass walls.

The animal health programs established and maintained at the Zoo include quarantine procedures, preventative medical programs, emergency medicine, surgery, dentistry, geriatric medicine, neonatal medicine and comprehensive medical records maintenance for each animal in the collection. The Zoo also has established a highly successful intern program in zoological medicine at the pre- and post-doctoral levels. The pre-doctoral level is directed at veterinary students who have completed three years of schooling. These students spend six to eight weeks with the clinical and pathology staff during their training. The post-doctoral training in zoological medicine includes an internship of 15 months and a residency program of two years for graduate veterinarians. Both intern programs have proved valuable to the Zoo and to the individuals who have completed the programs.

Research - The National Zoological Park conducts diverse research programs at both the Rock Creek site and the Conservation and Research Center at Front Royal. The Zoo's animal collection provides a unique and immensely valuable resource which lends itself to behavioral studies involving multispecies comparisons. The Zoo is presently conducting studies of animal communication patterns. These studies emphasize the structure, function, evolution, and development of vocal and olfactory communication systems. Species being studied include elephant shrews, dik-diks and golden lion tamarins. The research staff also is conducting studies on reproductive strategies. Current research involves a series of conceptually related studies testing theory concerning the evolution of mating systems, parental investment and kin selection in vertebrates.

The Zoo also conducts field research work on the ecology of primate populations. One project, being conducted in the Mahaweli River region of Sri Lanka, deals with the impact of massive development on wildlife, especially the Asiatic elephant. Another project, in Venezuela, has dealt with the social organization of primates and has proven so successful that the staff intends to expand the research into other areas of South America. Other research projects are underway in the Appalachian region at the Zoo's Conservation and Research Center and include the study of raccoons, opossums, skunks, and small rodents.

The Conservation and Research Center continues to play an important role in the research and breeding programs for rare and endangered species. The facilities at the Center provide a unique environment for the establishment of selected breeding programs, one that cannot be matched in the standard Zoo setting. The Center has been very successful in breeding animals such as the zebra, Bactrian camels, Scimitar-horned oryx and the Pere David's deer, maned wolf, lesser pandas, Binturong, and selected birds, especially cranes.

Animal management and research results are shared with many other American zoos in a national effort to preserve irreplaceable exotic species, many of which are threatened with extinction in the wild.

Visitor Education - The Zoo maintains a wide variety of educational programs for the visitors. For pre-school and elementary school children, the Zoo offers classroom curriculum units, pre-visit lesson packages, films, guided tours with hands-on activities, as well as an extended six-week course at the Zoo. For the family visitor Zoolab, Birdlab and Herplab resource areas are available. These areas provide the visitor with an in-depth look at specific areas of Zoo life. The Zoo also provides a free winter program, "Sunday Afternoons at the National Zoo." In general, the focus of this program is on the family group. Educational materials, films and brochures are made available to provide the Zoo's visitors with a more enjoyable and educational visit.

Support Services - Support services constitute a vital part of Zoo operations. They include security at the Park and the maintenance of the total plant property and collateral equipment. The Office of Police provides 24-hour per day, seven-days-a-week coverage to insure the safety of the visitor, as well as that of the animal collection. The facilities support staff maintains the physical plant 365 days a year. This responsibility covers over 25 buildings at Rock Creek, with 10 acres of floor space, two miles of electrical lines and six miles of sewer lines. The Rock Creek site also has over three miles of roadways, 2.4 miles of perimeter fence and five miles of sidewalks contained within its 150 acres. These must be maintained for public safety. At the Conservation and Research Center there are nearly 30 miles of chain link fence which must remain secure. The Center has 130 separate buildings scattered over its 3,150 acres.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of one position and \$87,000 is requested for facilities management, collections management and research purposes at the Rock Creek Zoo and the Conservation and Research Center.

An amount of \$40,000 is sought to provide adequate support for newly constructed facilities at the Zoo. The renovated Reptile and Small Mammal Buildings scheduled to reopen in the summer and winter of 1981 respectively, the new Great Ape House which will open in March 1981 and the Monkey Island Exhibit, scheduled to open in the spring of 1982, will contain additional mechanical facilities which must be kept in proper working order. An increase of one part-time heating, ventilating and air-conditioning mechanic and \$20,000 will allow the Zoo to monitor the equipment at these and other buildings on a regularly scheduled basis. A further amount of \$20,000 will be used to purchase supplies, such as filtration chemicals and fire safety equipment, for newly constructed exhibits including the Great Ape House, Monkey Island Exhibit and other new exhibit spaces.

One new position and \$19,000 are sought for improved vehicle maintenance at the Conservation and Research Center. The Center has a fleet of over 50 vehicles in addition to 20 items of farm and grounds equipment. At present, only one full-time auto mechanic maintains all of this equipment, with the result that there is a constant backlog of vehicles requiring repair and certain vehicles are not available when needed. To help alleviate this problem, an additional position and \$19,000 for a second auto mechanic and related supplies are requested.

During the past few years, the animal population at the Conservation and Research Center has increased without a commensurate increase in the work force. It is essential to the health and safety of the animal population that additional keepers be provided. An increase of \$15,000 will permit the addition of one part-time animal keeper who will be assigned to the Bird Complex at the Center. Presently, the Bird Complex has three permanent keepers for its population of approximately 300.

Finally, an amount of \$13,000 is sought to upgrade the equipment in the Zoo's Pathology and Research laboratories and to purchase medical supplies for research projects. In particular, a Lictz binocular compound microscope, a hacker blade sharpener, a multiplex slide cabinet and a Duo Autotechnician (used to prepare tissue for histological examinations) will be purchased.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from fees for general use of the facilities at Front Royal, Virginia, including use of the conference area by authorized visitors and from the Institution's Collections Acquisition, Scholarly Studies and Education Program to support ongoing research in animal communications as well as other research and educational projects. Expenditures through this Program, which totaled \$110,000 in FY 1980, have not been recorded for FY 1981. This explains the variance in totals shown between FY 1980, FY 1981 and FY 1982. The Zoo can, however, expect to receive and spend funds made available through this Program in FY 1981 and in FY 1982. Expenditures also are made for the support and maintenance of general use facilities at Front Royal (estimated expenditures of \$26,000 in FY 1981 and \$29,000 in FY 1982), and for a new animal acquisition fund (estimated expenditures of \$15,000 in FY 1981 and in FY 1982).

Restricted Funds - The Zoo continues to receive a number of gifts and private foundation grants to support research projects being conducted at the Rock Creek and Front Royal sites. An example of this support is a grant from

Ringling Brothers Circus for the study of antibiotics in various zoo animals (estimated expenditures of \$14,000 in FY 1981 and \$15,000 in FY 1982). The Zoo also has established a restricted revolving fund for the purchase of animals. Income from this fund is derived from the sale of animals that are excess to the needs of the Zoo. The income is then used to purchase new animals for the collection (estimated expenditures of \$5,000 in FY 1981 and \$7,000 in FY 1982).

Federal Grants and Contracts - Support of this type is provided by various agencies and departments for research projects being conducted by members of the Zoo staff. The Zoo currently is conducting research in the areas of animal communication systems and pair bonding of the Golden Marmosets with grants from the National Institutes of Mental Health (estimated expenditures of \$34,000 in FY 1981). A three year project was begun in FY 1980 with funds from the National Science Foundation for studies of maraques in Sri Lanka (estimated expenditures of \$53,000 in FY 1981 and \$40,000 in FY 1982). Grants from the National Institutes of Health are being used to establish a training program for overseas students in the care and management of the primate population, and for establishment of an image analysis center for ecological studies (estimated expenditures of \$70,000 in FY 1981 and \$55,000 in FY 1982).

CENTER FOR THE STUDY OF MAN

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	12	575	--	2	--	--	--	11	--	20
FY 1981 Base	12	647	--	--	--	--	1	38	--	10
FY 1982 Estimate	12	743	--	--	--	--	--	17	--	15

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	12	0	12
Number of Other Positions.....	5	0	5
11 Personnel Compensation.....	341	3	344
12 Personnel Benefits.....	30		30
21 Travel & Trans. of Persons.....	54		54
22 Transportation of Things.....	9	2	11
23 Rent, Comm. & Utilities.....	5	3	8
24 Printing and Reproduction.....	17		17
25 Other Services.....	124	30	154
26 Supplies and Materials.....	48	15	63
31 Equipment.....	19	43	62
Total	647	96	743

Analysis of Increase

Necessary Pay.....	3
Inflation.....	25
Program Funds.....	68

ABSTRACT - The Center for the Study of Man (CSM) encompasses the National Anthropological Film Center and the Research Institute on Immigration and Ethnic Studies. The Center supports research and other services relating to immigration, ethnicity, anthropological film archiving, film making, research, and related archiving and publication activities. An increase of \$68,000 is requested for FY 1982 for indexing and cataloguing the National Anthropological Film Center's research film collection. Necessary pay of \$3,000 is required for existing staff, and an amount of \$25,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Center for the Study of Man coordinates research and development in a series of anthropological and man-related science programs. The National Anthropological Film Center (NAFC) works to take fuller advantage of

the scholarly potential of film as a tool of inquiry into the vanishing and changing ways of life and cultures of the world. Its purpose is to facilitate the study, documentation, and presentation of visual data records of the varieties of patterns of human behavior, response and expression in various social and cultural contexts. Towards this end the NAFC is developing a national research film collection as a means of preserving these records. Nearly one million feet of film documents, representing aspects of life throughout the world, is presently in hand. Collaborative programs have been undertaken by the Center in: Nepal, India, Tibet, New Guinea, Brazil, Micronesia, Philippines, Pakistan, Cook Islands, and Sudan.

The principal work of the Film Center is in the areas of visual data retrieval, preparation, analysis and preservation, with effort also devoted to equipment and systems design, indexing and retrieval, and report film production. At present NAFC resources are devoted mainly to the urgent tasks of developing visual records of the increasingly rapid disappearance of traditional ways of life in the world.

In FY 1981, the NAFC will continue a collaborative study with the Royal Nepal Academy on the cultural heritage of Nepal. Additional raw visual data records are being collected and a preliminary research report film will be completed. Work also continues on the film studies of traditional Tibetan civilization, in conjunction with the Library of Tibetan Works and Archives. Research will begin in FY 1981 among the Bharward people of Gujarat, India, an unusual group of cattle herders who have developed unique herding techniques. Development and continuation of research projects in the Philippines, New Guinea, and Micronesia will be continued in FY 1981.

The Research Institute on Immigration and Ethnic Studies (RIIES) was founded in 1973 with the objective of assisting and conducting research on immigration to the United States and its overseas territories, and related matters. At a time in history when the inflow of immigrants to the United States is greater than it has ever been, the scholarly work of the Research Institute may be helpful in offering insights into immigration patterns. Legal and social problems are particularly acute for the large number of illegal immigrants who continue to arrive in the United States. These people have a significant effect on providers of social services, employment, law enforcement and in other areas; however, they lack a coherent voice and thus are not heard by those who can provide services or redress problems. Knowledge of the patterns of migration and the forces which impel people to undertake immigration can be helpful in controlling and discouraging illegal immigration. The work of the Research Institute addresses this important current challenge.

Specifically, the Research Institute is engaged in the study of the various categories of people that have entered the United States subsequent to the enactment of the 1965 immigration act, with specific emphasis on Caribbean immigration to the United States, its overseas territories, and other mainland countries of the Hemisphere. The work is proceeding through continued promotion of academic research on the subject of immigration by means of specialized publications and related seminars. Special emphasis has been placed upon an historical comparative study of Caribbean immigration to United States with increasing emphasis on culture change and impact on the United States culture. Thus far, RIIES has carried out several important projects dealing with new immigration. Field studies in Washington, D.C. and other cities where new immigrants gather, field studies of special types of immigrants including refugees and migrants, and a series of seminars on the new immigrations all have been undertaken by the Research Institute. The Institute has published and distributed proceedings and commissioned works, including its Source Book on the New Immigration: Books 1 and 2, and as a consequence of RIIES' efforts a network of academicians focused on immigration and other related fields has been established.

The Institute will continue its focus on publication of monographs on immigration, culture distributions and change, and cultural impact of Caribbean and other new immigrants to the United States. Work also will proceed on a possible museum exhibit, as well as on materials of use for further conferences on the new immigration. The Institute will continue to cooperate in the study of such timely issues as second generation immigrants, and secondary migration among new immigrants. These studies may throw light upon such subject areas as internationalization of ethnicity and cultural linkages, and urban governance and cultural pluralism, and may be of use to planners in formulating policies relating to immigration.

Geographically the Institute's attention will continue to be directed to immigration from the circum-Caribbean region to North America, and immigration patterns involving United States territories overseas.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an amount \$68,000 is requested to index and catalogue the National Anthropological Film Center's research film collection. This film collection is being developed from the Center's documentation program in third world nations, as well as from film collections donated to the Center for scholarly use and permanent preservation. This growing collection now contains about one million feet of visual data, representing an irreplaceable source of aspects of life throughout the world. The value of this information to present and future scholars is extremely important, particularly in light of the fact that many of the cultures represented by the films either no longer exist or will not exist in their present form for very much longer. In order to make this unique multi-cultural, multi-disciplinary resource accessible for scholarly research, it is essential to catalogue and index the filmed data, using a computerized retrieval system capable of searching and sorting the data. The additional resources will be used to purchase specialized film handling supplies and equipment, and to develop a computerized indexing and retrieval system.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds were provided in FY 1980 for operating support to the Research Institute on Immigration and Ethnic Studies (expenditures of \$2,000 in FY 1980).

Restricted Funds - These funds are provided through gifts and foundation grants from individuals, organizations or corporations for specific purposes. For example, the National Anthropological Film Center has received grants for various film study projects such as the experimental development of film material on traditional Tibetan civilization (estimated expenditures of \$2,000 in FY 1981) and child behavior and human development in isolated cultures including the Kayapo Indians in Brazil (estimated expenditures of \$5,000 in FY 1981 and \$4,000 in FY 1982). The Research Institute on Immigration and Ethnic Studies received a grant in FY 1981 from an anonymous donor for \$12,000 to conduct research on "Ethnic Conflict in Developing Countries".

Federal Grants and Contracts - Funds are provided from various agencies and departments for special projects. A contract awarded to the National Anthropological Film Center by the National Cancer Institute for a film study of the Hunza People in Pakistan is being expended in FY 1981 (\$10,000). Funds are being sought from the Department of Health and Human Services to further the Film Center's research on child behavior and human development in isolated cultures including the Nepalese and Brazilian traditional cultures (estimated expenditures of \$15,000 in FY 1982).

HISTORY AND ART ACTIVITY

Summary and Highlights of Proposed Increases

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
			FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	638	17,856	15	679	18	5,215	44	3,003	1	103
FY 1981 Base	642	19,932	14	652	14	1,313	44	3,345	--	25
FY 1982 Estimate	646	21,465	14	635	14	1,414	43	3,119	--	25

*FTP = Full-time permanent positions

Analysis of Increase (Federal Request)

Necessary Pay.....304
 Inflation.....375
 Program Funds.....854

The FY 1981 base for all units in the History and Art Activity totals 642 positions and \$19,932,000. A program increase of four positions and \$854,000 is requested for FY 1982. Necessary pay of \$304,000 is required for existing staff and an amount of \$375,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

The proposed increases would meet a variety of collections management (including conservation), exhibition, research, education, collections acquisition, and other needs within individual museums, galleries and research units. For essential collections management needs, a total increase of \$402,000 is sought consisting of: \$155,000 for the National Museum of American Art to enlarge and improve its storage facilities and to provide for remedial conservation and condition surveys of the collection; \$150,000 for the National Museum of American History (formerly the National Museum of History and Technology) for the care of and the selected processing of negatives from the Museum's extensive photographic collections, for purchases of supplies and equipment needed to accommodate the Museum's collections, and for equipment for its conservation facility. Also included are one position and \$43,000 for the Freer Gallery for an oriental art restoration specialist who would head the restoration and conservation studio; \$30,000 for the National Portrait Gallery for a part-time registrarial assistant to help with various registrarial functions and to purchase compact and secure storage systems; and \$24,000 for the Archives of American Art to expand microfilming capabilities and to purchase essential conservation supplies.

For exhibition programs, one position and a total of \$209,000 are needed urgently to support exhibit production and to make various exhibit improvements. Funds to upgrade exhibits space are sought for the National Museum of American Art (\$70,000) and for the National Portrait Gallery (\$35,000). A further amount of \$59,000 is required to enable the Freer Gallery to make continued improvements to various aspects of its exhibits program, including the provision of one

additional exhibition each year. Lastly for exhibitions, one position and \$45,000 are requested for the Cooper-Hewitt Museum for a graphics designer who will be responsible for the design and production of exhibition and other printed materials for the Museum, and for temporary production personnel to support the Museum's active exhibition program.

Two positions and a total of \$105,000 are sought for research programs. One position and \$45,000 are for a research curator for the Museum of African Art who will help develop the Museum's collection and assist with other programs. Also for the Museum of African Art, a sum of \$40,000 is sought to provide a publications base suitable for a national museum. An additional position and \$20,000 are requested for a research assistant for the Joseph Henry Papers Project.

For educational programs, an amount of \$95,000 is required for two museums: \$70,000 for the National Museum of American History to provide educational materials to school groups and the public; and \$25,000 for the Hirshhorn Museum and Sculpture Garden to increase support for the outreach program of its Department of Education.

An amount of \$18,000 is requested for the Archives of American Art to help maintain its acquisition program. Finally, an amount of \$25,000 is requested for the National Museum of American Art to purchase alarms and safety devices for high value objects in cases.

The sources and uses of nonappropriated Trust funds are explained individually for each line item in the History and Art Activity.

OFFICE OF THE ASSISTANT SECRETARY FOR HISTORY AND ART

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	9	317	1	77	--	12	--	1	--	6
FY 1981 Base	9	354	1	69	--	16	--	1	--	--
FY 1982 Estimate	10	380	1	71	--	16	--	50	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	9	1	10
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	314	23	337
12 Personnel Benefits.....	29	2	31
21 Travel & Trans. of Persons.....	6	1	7
24 Printing and Reproduction.....	1		1
25 Other Services.....	2		2
26 Supplies and Materials.....	2		2
Total	354	26	380

Analysis of Increase

Necessary Pay.....	5
Inflation.....	1
Program Funds.....	20

ABSTRACT - The Office of the Assistant Secretary for History and Art advises and assists the Secretary in planning, accomplishing and reviewing the activities of the Smithsonian history and art programs. Also included under this heading is the Joseph Henry Papers Project, for which in FY 1982, an increase of one position and \$20,000 is requested to replace funding for research assistance and other support previously received from the National Historical Publications and Records Commission. Necessary pay in the amount of \$5,000 is required for existing staff and an amount of \$1,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - With a base of four positions and \$170,000, the Office of the Assistant Secretary for History and Art advises and assists the Secretary in planning, executing, coordinating and reviewing the activities of the Smithsonian history and art bureaus and offices. The bureaus and offices reporting directly to the Assistant Secretary for History and Art are the

Archives of American Art, Cooper-Hewitt Museum in New York, Freer Gallery of Art, Hirshhorn Museum and Sculpture Garden, National Museum of American Art (formerly the National Collection of Fine Arts), National Museum of American History (formerly, the National Museum of History and Technology), National Portrait Gallery, American Studies and Folklife Programs, Museum of African Art, and the Joseph Henry Papers Project.

Joseph Henry Papers - The remainder of the resources identified in the base of this office, five positions and \$184,000, support the Joseph Henry Papers Project. Since 1968, the editor and staff of the Joseph Henry Papers have been gathering information and preparing for publication the manuscripts of Joseph Henry (1797-1878), the pioneer American physicist and the first Secretary of the Smithsonian Institution. Three volumes of the 15 volume letterpress series and a special volume of Henry's lectures and essays have been published by the Smithsonian Institution Press, and the fourth volume will appear in June 1981. In FY 1982, the fifth volume, which was completed in FY 1981, is scheduled for publication and editorial work on volume six should be completed. In addition, work continues on the supplementary microfilm edition.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of one position and \$20,000 is requested for the Joseph Henry Papers Project. From January 1977 through December 1979, grants from the National Historic Publications and Records Commission supported one full-time research assistant and contributed toward expenses for travel, supplies, computer time, and reproduction of manuscripts. There was only one research assistant position on the staff and it served the important functions of providing the majority of the field research for the senior historians and of contributing significantly to the editorial work. The position was requested in FY 1981 and disallowed, but the Institution considers both the position and the project important enough to make the request again. Without it and the related support, the Joseph Henry Papers Project will require another three to four years to complete, prolonging publication of the final volumes until at least the year 2000. Accordingly, one new research assistant position and \$20,000 are sought to enable the project to proceed on schedule.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - In FY 1981 and FY 1982, the amounts of \$69,000 and \$71,000 respectively of unrestricted general funds will be used to pay the salary, benefits, travel and other costs of the Assistant Secretary for History and Art. Special purpose funds in FY 1981 and FY 1982 will be used to pay the publishing costs of the "Finders' Guide to Prints and Drawings" and the "Smithsonian Guidebook to the Decorative Arts."

Restricted Funds - In FY 1981, the Joseph Henry Papers Project anticipates receiving small grants from the National Academy of Sciences and from the Peter C. Cornell Trust. The funds from these grants will help defray the costs of publishing the Joseph Henry Papers. During FY 1982, Joseph Henry Papers anticipates raising approximately \$50,000 in foundation support for a series of symposia in the history of science and technology in the United States.

Federal Grants and Contracts - Expenditures in FY 1980 are from a grant received from the National Historical Publications and Records Commission and used to support the Joseph Henry Project. No additional funds are currently anticipated for FY 1981 and FY 1982.

NATIONAL MUSEUM OF AMERICAN HISTORY

(Dollars in thousands)

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	278	7,177	2	148	2	221	--	366	--	--
FY 1981 Base	278	8,041	2	92	--	127	--	260	--	--
FY 1982 Estimate	278	8,494	2	87	--	116	--	147	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	278	0	278
Number of Other Positions.....	10	0	10
11 Personnel Compensation.....	6,338	56	6,394
12 Personnel Benefits.....	609	4	613
21 Travel & Trans. of Persons.....	41	4	45
22 Transportation of Things.....	41	4	45
23 Rent, Comm. & Utilities.....	54	11	65
24 Printing and Reproduction.....	83	40	123
25 Other Services.....	370	143	513
26 Supplies and Materials.....	200	93	293
31 Equipment.....	225	98	323
Acquisitions for collections...	80		80
Total	8,041	453	8,494

Analysis of Increase

Necessary Pay.....	113
Inflation.....	120
Program Funds.....	220

ABSTRACT - The mission of the National Museum of American History (NMAH) formerly the National Museum of History and Technology, is to illuminate, through collections, exhibitions, research, publications, and educational programs the entire history of the United States. Besides exhibitions in its own building, it maintains the "1876" Centennial exhibition located in the Arts and Industries Building. During the coming year, the Museum will begin a systematic upgrading of its outmoded exhibition spaces and proceed with the inventory of its vast collections toward a completion date in FY 1983.

For FY 1982, a program increase of \$220,000 is being sought, consisting of: (1) \$70,000 for an expanded publications program; (2) \$70,000 for selected processing of prints from the Museum's extensive photographic collection; and (3) \$80,000 for purchases of supplies and equipment needed to accommodate the Museum's collections. In addition, a redirection of base resources will be accomplished to satisfy needs for technical support staff, to establish an archival center, and to increase the conservation of Museum specimens. Necessary pay in an amount of \$113,000 is required for existing staff and an amount of \$120,000 is sought to compensate for the effects of inflation in non-salary areas of expense.

PROGRAM - Over five million visitors annually experience the Nation's history through the exhibitions and programs presented by the National Museum of American History. Countless others unable to visit Washington are reached through loans from the collections to museums throughout the country, and by means of lectures, presentations and publications based on the collections or about various aspects of American history. While continuing to meet thousands of public requests for information, loans and various services, the Museum is concentrating on two areas of prime importance: completing by FY 1983 a Congressionally mandated inventory of its holdings of over 16 million objects, and setting in progress the first systematic renovation of its exhibitions spaces since the Museum opened in 1964. There were significant accomplishments in each of these areas during FY 1980.

The collections inventory effort was reorganized to increase its speed and efficiency. Additional resources were applied to the computerization of data and special attention was given to collections in the Divisions of Numismatics, Philatelics, and Photographic History, comprising the bulk of the Museum's holdings. Renovation to correct contamination by flaking asbestos and to provide proper climatic control was begun on one of the Museum's five storage buildings at Suitland, Maryland, and will be completed in mid-1981. Upgrading the remaining buildings at Suitland will continue in FY 1981 as required for completion of the inventory and the proper operation of the Museum.

The goals of the inventory for FY 1982 are to complete work in the collections of six major divisions stored in the Mall building (Costume, Domestic Life, Electricity, Modern Physics, Mathematics, and Community Life); to plan and begin surveys of holdings at Suitland; to finish an initial survey of NMAH's estimated 350,000 photographs; and to complete major portions of the remaining work in Numismatics and Philately. Approaches in surveying and recording data vary by collection. Working conditions and the availability of records (often dating well back into the 19th century, using a variety of cataloguing systems) affects the work as well. Accompanying this massive project are considerable expenditures for storage equipment, secure packing materials, proper containers, and electronic finding aids necessary to make the results of the inventory permanently available and useful. The appropriation request for the Collections Management/Inventory Program, an explanation of this program and a comprehensive funding summary appear in the Special Programs section on page A-170.

The Museum's emphasis in the area of exhibitions has been on reordering the spaces on the second floor dealing with American cultural and social history of the 18th and 19th centuries. In February 1982, the first national exhibition of the life and times of George Washington is scheduled to open on the 250th anniversary of his birth, mainly using funds appropriated in FY 1981 under the Major Exhibition Program. The Museum's goal with the George Washington exhibition itself and other installations to follow is to help the visitor recapture a sense of life in the past through the integrated use of artifacts, authenticated installations and special educational presentations. The approach will be flexible enough to accommodate the diversity of interests of all visitors, as

well as enable us to continue to augment the exhibitions periodically with special groupings of items which for the most part have been relegated to storage. These plans are reported on further in the Major Exhibition Program section of this budget on page A-176.

Several exhibitions, in progress for the past three years, were installed in FY 1980. Chief among these, supported with a grant from the National Cash Register Corporation, was "The Clockwork Universe," an exhibition of 120 rare Renaissance clocks and automata. The exhibition studied the making and uses of the objects as well as their importance as antecedents to contemporary machines and as models of the rational, ordered world of the Enlightenment which reformed the political and social philosophy of our Founding Fathers. This provocative exhibition achieved high scholarly and popular acclaim both in Germany (where it opened at the Bavarian National Museum) and in Washington (where it opened in November 1980). A major book, the first detailed catalogue of this early generation of "machines," accompanied the exhibition.

Smaller, but highly popular exhibitions in their own right, were held as well. "The Nation's Attic," on view from April 1980 to March 1981, contains a variety of unusual examples of American culture--Tom Thumb's piano, the Colossal American Flag, and a silk purse made from a sow's ear. "Buckaroo," which is being presented from October 1980 through March 1981, demonstrates the life and environment of the typical Nevada "cowboy" through an actual line cabin and hundreds of artifacts. In an exhibition, "Western Views-Eastern Visions," prepared cooperatively with the United States Geological Survey for national circulation by the Smithsonian Institution Traveling Exhibition Service, the Museum showed 170 photographs and 15 paintings reflecting the images of the American West which reached skeptical (and enthralled) audiences in the Eastern United States during the mid- and late nineteenth century. The exhibition was on view from July 1980 through January 1981. Other exhibitions mounted on a similar scale concerned early printing methods devised to educate the blind, methods used in dating and analyzing ceramics to gather historical evidence, a variety of 20th century puppets, and a collection of rare violi da gamba.

While exhibition staff effort during 1981 will be devoted increasingly to preparing the George Washington show, several small exhibitions are planned including one commemorating the 100th anniversary of the American Red Cross, another portraying a view of changing technology on the American farm, and displays of Inaugural memorabilia. The exhibits staff continues to maintain approximately 8 1/2 acres of exhibitions on view in the Mall building, as well as the continuously popular "1876" Exhibition in the Arts and Industries Building.

In FY 1981, and in succeeding years, the Museum will be researching major exhibitions and publications on the Industrial Revolution, the development of American science, and everyday life in the 19th century. This is research with a strong contemporary utility, for we may genuinely learn from the past--if not specific lessons, then an indispensable perspective. During the next year, staff members will be engaged in the following broadly conceived social history studies: coppersmithing and glassmaking, as they were transformed by new machines and new forms of business organization; the emergence of the textile industry in America through an intensive study of the country's first textile-mill village, Pawtucket, Rhode Island; the early history of automatic mechanisms; early American farming; steam engines in the 20th century; the critical period of Edison's work on the light bulb; medical technology in the United States Navy; the history of vitamins; and the history of saltpeter (a prime constituent of gunpowder). Signalling the high regard the scholarly community has for the Museum, the Society for the History of Technology has selected NMAH to be the editorial home of its prestigious journal, Technology and Culture.

Among acquisitions purchased with Federal funds in FY 1980 were a silver porringer made in Philadelphia by Philip Syng, Jr.; a collection of twelve George Washington inaugural buttons commemorating inaugural events in 1789 and 1793; an Empire-style gown made of Chinese embroidered silk worn by Dolley Madison at a New Year's Day reception in 1816; and a late 18th century brass scale made and signed by Benjamin Rittenhouse, one of the few surviving pieces created by the Rittenhouse family of fine instrument makers. With nonappropriated Trust funds, the Museum purchased a late 18th century men's suit worn by its original owner to his wedding in 1790 in Marblehead, Massachusetts; and an important collection of women's suffrage memorabilia, purchased with funds raised by the Women's Committee of the Smithsonian Associates. Finally, the American Society of Mechanical Engineers donated a sum of \$35,000 for the purchase of an historic, stationary steam engine dating from the 1850s, made by F. & W. M. Faber of Pittsburgh, one of the half dozen earliest such engines of American manufacture still in existence.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of \$220,000 is requested. Funds of \$70,000 are sought for enhancement of the Museum's publications program; \$70,000 is requested for selected processing of prints from the Museum's extensive photographic collections and for the microfilming of certain other important collections; and \$80,000 is requested for acquisition of supplies and equipment needed to accommodate the Museum's collections.

The publications program of the National Museum of American History benefits the public in two basic ways: by reinforcing the experience of the visitors to the Museum's exhibitions, and by extending to those unable to visit information about our collections, exhibitions, and a variety of subjects of American history researched by our staff. There is a need to take advantage of the work of the inventory by developing checklists and catalogues of the Museum's holdings in areas of high public interest. The NMAH would like to produce publications which would be disseminated to libraries, museums and the general public. Such distribution will have the effect of making the Museum's collections much more accessible and reducing public inquiries frequently made about routine matters. Another strong need is the production of educational brochures, fact sheets and self-guiding materials to be used by visitors to the Museum. It is impossible to serve the volume of visitors here without the benefit of such information. Finally, there is the need to produce the type of scholarly catalogue that documents for the future the contents of Museum exhibitions and scholarly studies using the historical evidence represented by Museum collections.

NMAH's current publications' budget of \$60,000 is inadequate to meet these needs. Of the additional \$70,000 sought, \$30,000 will be applied toward the production of educational materials for school groups, \$10,000 will be used to develop and produce educational materials for free distribution to the public, \$10,000 will be for the publication of improved information sheets and pamphlets used by the Museum and by the Smithsonian Institution Visitors Information and Associates Reception Center to respond to public inquiries, and \$20,000 will be used to purchase a word processor to permit more efficient production of reference publications.

A further amount of \$70,000 is requested for care of the photographic collection and for microfilming of important photographic collections. The National Museum of American History possesses one of the most extensive archives of photographs in the country which not only is fully representative of the history of the photographic process, but also vitally important as historic evidence and as examples of the work of particular photographers. These collections are in great demand by researchers, publishers, film and television producers, as well as by museum professionals for use in exhibitions and

publications. Given the limitations of the staff of this department (one curator and two technicians), it has been impossible to develop the finding aids necessary to serve the public's demands. Many of the 350,000 objects in question are glass-plate negatives and some are negatives on highly flammable nitrate stock. Prints of all negatives need to be made in order for these holdings to be used; the nitrate negatives will be disposed of completely after their reproduction. The reproduction of prints from negatives also will serve inventory work now in progress. Of the requested funds, \$45,000 will be used for selective processing of the most urgent items, and for the purchase of storage equipment, filing materials and photographic and viewing equipment necessary to provide better access to the materials.

The Museum has rich documentary and archival holdings, most notably the Warshaw Collection of Business Americana (1.5 million items), largely composed of paper. This material ought to be microfilmed especially in those instances where the originals cannot be preserved indefinitely. For microfilming the most important aspects of these collections, an amount of \$15,000 per year is requested. To purchase microfilm viewing equipment to be used by staff and researchers, \$10,000 is requested.

Lastly, a total of \$80,000 is sought for storage equipment, packing and crating materials, and supplies and equipment for the conservation laboratory.

Benefiting museums everywhere, NMAH has pioneered in the last several years in the development of specifications for commercially produced museum storage equipment, meeting the highest standards for efficient use of space, as well as security of the items. These units also are extremely flexible with interchangeable shelves and compartments necessary to serve the diversity of storage requirements and changing needs over the years. The units house objects more securely, and also enable better use of the cubic area in the Museum's storage rooms. Over the next five years, it will be necessary to purchase such equipment for Numismatics, Philately, Political History, and other divisions sorely in need of improved storage conditions. A sum of \$45,000 per year is requested to provide for these purchases.

With the renovation of buildings at Suitland, Maryland, and the extensive changes in exhibition spaces within the Museum, it is necessary to provide packing and crating materials for a wide variety of objects that will be shifted from one storage area to another or from exhibition to storage or vice versa. The Museum's more dynamic exhibitions program and its endeavors to increase loans to other institutions of objects which would otherwise be in storage, have increased greatly the movement of objects. To protect the objects, both in storage and in transit, special crates and shelving are required and an amount of \$20,000 is requested to support this need. The conservation facilities of the National Museum of American History are not satisfactory yet. While appropriations provided in FY 1980 in the Restoration and Renovation of Buildings account provided the funding for consolidation of laboratory spaces in the basement, there are ongoing needs for equipment and supplies. For FY 1982, an amount of \$15,000 is requested for the purchase of ultraviolet and infrared examination equipment, a vacuum hot table for paintings and painted objects, and an activated charcoal fume extraction system to support the conservation of objects ranging from heavy machines, flags and banners, to painted coaches, and personal artifacts of presidents.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources including the Museum's share of sales in the museum shop, restaurant, bookstore, product development royalties, and allotments,

including those from the Institution's Collections Acquisition, Scholarly Studies and Education Program. Expenditures under the Collections Acquisition, Scholarly Studies and Education Program supported the Museum's Senior Outreach Project in FY 1980 (\$21,000); additional funds in FY 1981 (\$31,000) will enable the Museum to expand this Program which provides transportation to the Museum for senior citizens who would otherwise not be able to visit the Museum and share in the museum experience. In addition, the funds are used to support field research, publications, less expensive collections acquisitions, and special events for the opening of new exhibitions. Funds also are used to support the position of the Director of the Museum.

Restricted Funds - Funds provided here are in the form of restricted endowments which specify the use of the donation or bequest and of gifts and foundation grants provided by individuals, organizations and corporations for specific purposes. Generally, the restricted funds provide support for a particular exhibition or project. Funding over the past year has come from the National Cash Register Corporation, the Federal Republic of Germany and the Bavarian National Museum and contributed support towards the costs of the exhibition "The Clockwork Universe" which culminated with the show's opening in November 1980. In FY 1981, a grant from the International Harvester Corporation will provide funds to mount the "Changing American Farm" exhibition, scheduled to open in the spring of 1981. Finally, a grant from Doubleday and Company supports the Frank Nelson Doubleday Series for 1980-81 entitled "From the Top: Sightlines on American Music."

NATIONAL MUSEUM OF AMERICAN ART

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	105	3,371	1	53	--	953	1	230	--	5
FY 1981 Base	106	3,662	1	55	--	58	1	164	--	--
FY 1982 Estimate	106	4,043	1	45	--	65	1	49	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	106	0	106
Number of Other Positions.....	35	1	36
11 Personnel Compensation.....	2,691	61	2,752
12 Personnel Benefits.....	264	7	271
21 Travel & Trans. of Persons.....	28	12	40
22 Transportation of Things.....	70	11	81
23 Rent, Comm. & Utilities.....	36	4	40
24 Printing and Reproduction.....	76	12	88
25 Other Services.....	153	103	256
26 Supplies and Materials.....	125	112	237
31 Equipment.....	19	44	63
Acquisitions for collections...	200	15	215
Total	3,662	381	4,043

Analysis of Increase

Necessary Pay.....	55
Inflation.....	76
Program Funds.....	250

ABSTRACT - The National Museum of American Art (NMAA), formerly the National Collection of Fine Arts, the oldest national collection of art, is devoted to the acquisition, study, interpretation and exhibition of American painting, sculpture and graphic art. Established in 1829, the collection since then has borne a number of successive names; in 1937, it was designated by Congress the National Collection of Fine Arts. At the behest of its director, its advisory commission and the Smithsonian's Board of Regents, in October 1980, the Congress authorized the Museum's name to be changed to the National Museum of American Art. The new name more accurately reflects the fact that since its installation in the monumental old Patent Office Building in 1968, the Museum's

concern has focused primarily on American art. The Renwick Gallery, established under the purview of NMAA in 1972 in a physically separate building, continues to display American crafts and decorative arts and designs, as well as exhibitions from abroad. For FY 1982, an increase of \$250,000 is sought to strengthen the following programs: \$70,000 to upgrade facilities for the presentation of exhibitions; \$85,000 to enlarge and improve storage facilities for the expanding permanent collection; \$70,000 for remedial conservation and condition surveys of the collection; and \$25,000 to purchase alarms and safety devices for high value objects in cases. Necessary pay of \$55,000 is required for existing staff and \$76,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - NMAA's collection of over 25,000 works represents all aspects of more than 200 years of American art and serves as the basis for active programs of exhibition, research and public education. Its publications have become basic texts for reassessment of the art of America's past, and its exhibitions have brought new appreciation for American artists of both the past and present. The Museum has maintained close contact with art centers abroad and has encouraged the study of local art in many regions of the United States. Through the Renwick Gallery, located near the White House in the historic building designed by James Renwick, it has provided galleries for the exhibition of decorative arts and crafts, as well as for the presentation of exhibitions from abroad. Many young professionals from throughout the United States and from other countries have conducted research and learned methods of museum procedure and public education through NMAA's fellowship and intern programs. NMAA also maintains the Barney Studio House (with a part-time curator paid from nonappropriated Trust funds) as a period home for the Barney Collection, which is now open for tours by reservation.

As a national center for the study and research of American art, NMAA maintains three major art indexes: the Inventory of American Paintings Executed Before 1914, which began as a Bicentennial project and now has over 200,000 items catalogued by computer; the Smithsonian Art Index, which currently lists over 200,000 items of art housed in the Institution's non-art museums; and the Cumulative Index of Pre-1877 American Art Exhibition Catalogues, which comprises 40,000 computer entries of rare information on the activities of individual artists, regional cultural characteristics, patronage preferences and works which have been lost. In addition, NMAA has for general reference and research purposes 110,000 slides and photographs which are on a computerized file and over 200,000 negatives and slides which are being entered on the computer data bank. The library, with 40,000 volumes, serves NMAA, the Archives of American Art, the National Portrait Gallery and local and visiting scholars and students. During FY 1980, the library answered over 3,100 reference questions by mail and telephone.

Educational activities at NMAA include a number of innovative programs. In the past year, 30 teachers and over 300 high school students spent almost 6,500 hours at the Museum participating in its "Discover Graphics" workshop, and an equal number of students and teachers enjoyed the benefits of the program through traveling print presses which were sent to Washington metropolitan area schools. The annual "Children's Day," held in the courtyard during April 1980, attended by 3,000 persons, complemented NMAA's concurrent exhibition "The American Renaissance" and recreated the atmosphere of a turn-of-the-century world's fair. Because of the extraordinary popularity of festival events designed to increase children's awareness of art, two new interrelated events were scheduled inside the museum during February on an experimental basis: "Sculpture Day" attracted 2,700 visitors, and "Architectural Day" drew 1,000 participants the following weekend despite a blizzard. NMAA's "Explore Gallery," where youngsters (and adults) are encouraged to discover the range of

association between direct sensory experience and imagination, addresses the special needs of young children. For adults, the offerings of film programs, lectures, craft demonstrations and musical events have been increased. During FY 1980, almost 20,000 visitors were conducted on special tours and related educational events through NMAA, Renwick Gallery and Barney Studio House by 78 active docents. Eighteen workshops were organized for teachers of all grade levels.

NMAA annually guides 12 to 15 pre- and post-doctoral fellows in individual research projects who are selected competitively. These scholars come from universities across the country, as do another 750 persons who are given academic, vocational and scholarly counsel in office conferences, by telephone or by correspondence. Fifteen undergraduate and graduate students participate annually in structured intern programs, acquiring a practical knowledge of museum vocations. Many of the 222 former NMAA interns and fellows are now in responsible positions as museum directors, curators and university professors in 22 states and in the District of Columbia. Scholarly activities of the NMAA, in addition to exhibitions and publications, include public lectures, weekly seminars for interns, fellows and staff, and scholarly symposia with participants from all over the country.

In its exhibition program, NMAA will continue its emphasis on reexamining works by American artists who have been neglected in the past and on exploring regional aspects of American art. The Renwick Gallery will provide opportunities for the exhibition of works by American craftsmen, both in displays of works by individuals and in the presentation of new ideas, approaches and techniques of crafts media. When exhibitions of important national or regional interest are organized at the NMAA or the Renwick Gallery, they are offered to other museums for a fee covering only NMAA's expenses in touring them. Approximately 25 temporary exhibitions--not including rearrangements of the permanent collection galleries--open in the NMAA and the Renwick each year. With each exhibition organized by NMAA staff, a permanent substantial publication is produced.

In FY 1981, NMAA is studying individual American artists, both living and deceased, in special exhibitions to reappraise their influence and critical standing today. Among these are: "Max Weber: Prints and Color Variations;" "Romain Brooks (1874-1970);" "The World of David Gilmour Blythe (1815-1865);" "Jan Matulka (1890-1972);" "East and West: Painting/Poems by Sheila Isham;" "The Art of George Catlin;" and "The Bronze Techniques of Frederick Remington." In FY 1982, exhibitions will feature the following American artists, whose works merit fresh attention: Alma Thomas (1891-1978), John Graham (1881-1961), Joseph Cornell (1903-1972), William H. Johnson (1901-1970) and Elizabeth Nourse (1859-1938), the latter exhibition to be co-sponsored with the Cincinnati Art Museum.

An extraordinarily popular exhibition at NMAA during 1980 was "Eisenstaedt: Germany," which consisted of 93 photographs taken by the famous Life magazine photographer, Alfred Eisenstaedt, before he left Germany in 1935, and on his return to Berlin in 1979. Together they constituted not only a review of a major photographer, but a personal view of Germany, then and now. The exhibition was supplemented by the following programs that placed the material in an historical and cultural context: a series of six live concerts which played to capacity audiences each weekend; a series of classic German films of the 1920s and 1930s, which were so popular that the number of showings had to be doubled; an international symposium on the topic "Germany in the 20th Century: Florescence, Destruction, Survival," featuring scholars, critics, editors and authors from the United States and abroad; and a 17-minute videotape of Eisenstaedt shown continuously in the NMAA lobby during the exhibition.

Two exhibitions at NMAA emphasize the regional aspects of both collecting and producing American art: "Art from the Vice-President's House," the fourth and last collection assembled from regional museums that will be shown for the first time publicly, and "The Art of Appalachia," a juried exhibition consisting of approximately 70 paintings, drawings, sculptures and prints executed by artists working in the thirteen officially designated Appalachian states. After closing at NMAA, the latter exhibition will travel to locations in several of the Appalachian states.

The Renwick Gallery, as part of its exhibition program, continues to show the work of individual American craftsmen and to survey broad areas of craft trends. Small shows in FY 1981 are devoted to "Painted Weavings by Lia Cook and Neda AlHilali" and to "An Interior Decorated: Joyce Kozloff." Thematic exhibitions include: "Children's Toys: Renderings from the Index of American Design;" "The Animal Image: Contemporary Objects and the Beast," which will feature 114 sculptural and functional representations of animals; and "The Grand Beehive," an exhibition illustrating this image in signs, quilts, furniture and stained glass as a symbol in the state of Utah. One of the most popular craft exhibitions to open in 1980 was "American Porcelain: New Expressions in Ancient Art," comprised of 110 objects by as many contemporary craftsmen and selected by the Renwick staff from 350 submissions by artists working in 40 states. Documented by a trade publication which is being marketed nationally, this exhibition will travel to other locations in the United States and possibly to the Far East.

The Renwick also serves as an important national showcase in which to stage exhibitions from foreign countries, chiefly of folk and decorative arts. In FY 1981 and FY 1982, such exhibitions will include: "Berlin Porcelain," sponsored by the Senate of Berlin and shown simultaneously with "American Porcelain;" "A Feast of Color: Corpus Christi Dance Costumes from Ecuador," from the Olga Fisch collection; and "Venini Glass," selected from vessels created by the Venetian firm founded in 1921 by Paolo Venini.

Unquestionably the most ambitious undertaking in the Renwick's history will come in FY 1981 and FY 1982 with the exhibition "Celebration: A World of Art and Ritual." Between 500 and 700 folk and traditional objects (most of them never displayed before and many quite fragile) will be drawn from all Smithsonian collections to illustrate how different world cultures mark the important events and cycles in the lives of their people. The exhibition will serve as the centerpiece for a larger folklife festival involving live performances, presentations, demonstrations, film showings and various activities on the Mall and elsewhere. The entire Renwick building will be occupied by the exhibition in two phases. Since the expense of the exhibition and its concomitant activities is beyond NMAA's normal funding capability, a special budgetary allotment of \$250,000 was made in FY 1981 under the Smithsonian's new Major Exhibition Program. A further amount of \$200,000 is requested for FY 1982 under the Special Exhibition Program to open the second phase of "Celebration" and to support seven folklife events at the Renwick, as well as special educational programs on site and in area schools (see page A-176).

The most important purchase of works of art in the Museum's history was made in March 1980, when 10 extraordinary paintings by contemporary American artists were acquired from the Vincent Melzac Collection through nonappropriated Trust funds made possible by the Smithsonian's Collections Acquisitions Program; simultaneously with the sale, Mr. Melzac gave to NMAA 16 other major contemporary works from his collection. Additional purchases made in FY 1980 were of outstanding works by the 19th century artists Worthington Whittredge and Emmanuel Leutze, who lacked representation in the permanent collection. During FY 1980, 1,353 new acquisitions entered NMAA's permanent collection, 92 percent of them by gift or bequest.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of \$250,000 is sought to strengthen exhibitions, collections management, conservation, and security programs.

Exhibitions (\$70,000) - An increase of \$70,000 is requested to upgrade facilities for the installation of some 25 temporary exhibitions presented annually at the NMAA and the Renwick Gallery. Although NMAA actively seeks private funding to help support its exhibitions, it has found that corporations and corporate foundations prefer to support popular "block-buster" exhibitions aimed at mass appeal and media exposure. Neither NMAA's goals nor its physical space would support such an exhibition program. Nevertheless, NMAA has been successful in obtaining support from United Technologies for its Eisenstaedt exhibition and modest amounts from other corporate sources for specific public programs related to exhibitions. There is no intention to expand either the number of temporary exhibitions shown each year or the amount of gallery space dedicated to exhibitions. However, the physical facilities of those galleries and the facilities for the preparation of exhibitions must be improved.

Included in the \$70,000 is an amount of \$15,000 sought for new lighting fixtures, new partitions, new carpet and new furnishings in both the temporary exhibition galleries and the permanent collection galleries at NMAA. A further \$15,000 is requested for the Renwick's temporary exhibition galleries and for replacement and repair of worn fabrics and other furnishings in the two large period rooms of the Renwick - the Grand Salon and the Octagon Room - which are used continuously for concerts, lectures, films and receptions.

A second exhibits-related need is the need for creating a first floor orientation/assembly room by rearranging more efficiently the space required for preparation of exhibitions. Exhibition support activities, such as NMAA's cabinet shop, frame shop and graphics design and production studio, are located in the basement of the American Art/Portrait Gallery Building. The exhibition preparation room presently is located on the first floor. The sum of \$40,000 is necessary to move the preparation room to the basement and to convert the vacated room on the first floor to a sorely needed orientation/assembly room for school children and other groups. NMAA's new film, "A Sense of Discovery," produced by the Smithsonian's Office of Telecommunications and recipient of wide critical acclaim, would be shown in the new room as an orientation and introduction to gallery visitors, young and old alike.

This requested increase of \$70,000 in exhibition funding is needed not just for FY 1982, but on a continuing basis. A program of phased replacement of old and worn gallery fixtures, furnishings and appointments, is essential to the integrity of the NMAA's exhibition program.

Collections Management (\$85,000) - The single most urgent need facing NMAA is provision for additional storage space. NMAA's share of the American Art/Portrait Gallery Building is filled to absolute capacity. The only alternative in the building is to close gallery space for storage. Since only about 5 percent of the collection can now be displayed in available galleries, NMAA is reluctant to choose this alternative, particularly since, as new acquisitions arrive at an average rate of about 1,000 works each year, the percentage of the collection which can be displayed declines.

In FY 1981, 4,700 sq. ft. of storage space will be made available to NMAA at the Smithsonian Institution Service Center (SISC) at 1111 North Capitol Street. A large number of sculptures and decorative arts will be moved there during FY 1982 from the overcrowded space in the American Art/Portrait Gallery Building. An amount of \$35,000 is requested to purchase metal shelving and to

hire a part-time museum technician to assist in the move and to help in rearranging the works left in the American Art/Portrait Gallery storage rooms.

NMAA must look not only toward completing and equipping the new storage space at SISC but, equally important, toward a complete reorganization of its major, three level art storage space on the third floor of the American Art/Portrait Gallery Building. After most of the sculptures from this space's third level has been moved to the new space at SISC, the first and second levels should be entirely rearranged so that a more efficient use can be made of the space and so that its capacity can be expanded. It has been NMAA's policy to organize its storage so that none of its works, even though not on display, is inaccessible to scholars and others with a need to see them. The reorganization of the storage facility in the American Art/Portrait Gallery Building will require the purchase and installation of additional sliding metal racks for the paintings and an amount of \$50,000 is sought for these purposes. Not only will the efficiency and capacity of storage capability be improved in the area, but the unsafe conditions in which many paintings must currently be stored (many are now kept in slotted wooden cases) will be eliminated.

Even with these improvements contemplated for FY 1982, NMAA's long-range storage needs will necessitate an annual program of storage equipment upgrading to help assure both the security and accessibility of its growing collection.

Remedial Conservation (\$70,000) - With a collection as large and long neglected as that of NMAA, conservation is a never ending, never caught-up activity. The most pressing needs for conservation funds in FY 1982 are twofold: for conservation work on objects already identified as requiring it, and for surveys of those parts of the collection where identification of problems has not been made. At the present time, about 2,200 or 40 percent of the almost 5,500 paintings in the collection are not exhibitable due to the presence of grime, paint losses, structural weakness or other problems. Of this group, most are in relatively stable condition, but about 60 paintings need immediate attention to prevent serious deterioration. An amount of \$25,000 is sought for a painting conservator who will be hired on contract for one year to take care of the most critical problems.

The more than 400 portrait miniatures in the collection - many of them watercolor on ivory - have recently been surveyed for condition for the first time, and about 300 or 75 percent will require varying degrees of attention. Because work on miniatures requires special conservation experience, a separate conservator is needed on contract for one year at \$25,000. The 18,000 works on paper in the permanent collection never have been surveyed systematically for condition because of the sheer number of items and consequent number of work hours that would be involved in such a project. A survey is badly needed, however, and an additional \$20,000 is requested for a paper specialist, also on contract, who could most likely complete the task in one year.

Remedial conservation funds, though designated for specific purposes in FY 1982, are sought on a continuing basis; the 1,850 sculptures in the collection have not, as a whole, been examined for condition, nor have the 250 works of decorative arts in the collection. Following such surveys, an estimated 60 percent ultimately will require treatment. Also, the 1,000 to 1,500 new acquisitions entering the collection each year must be examined thoroughly and in many instances conserved before they can be exhibited or lent.

Alarm and Security Devices (\$25,000) - An amount of \$25,000 is requested to purchase alarms and safety devices for high value objects in cases. With the rise in the value of gold and silver, special precautions have now been mandated by the Smithsonian's Office of Protection Services for jewelry and craft displays at the Renwick Gallery and for small decorative objects of value at the NMAA.

Although some alarm devices were purchased for the Renwick's exhibition "Georg Jensen Silversmithy," more are needed. This sum of \$25,000 will permit a phased program to secure such objects, including those in NMAA's Gallatly Gallery, which contains a permanent installation of small objects of precious metals and stones.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from many different sources including the Museum's share of sales in the restaurant and museum shop, and allotments including those from the Institution's Collections Acquisition, Scholarly Studies and Education Program. Expenditures under this Program totaled \$879,000 in FY 1980 and were used almost exclusively to support the acquisition of ten extraordinary paintings by contemporary American artists from the Vincent Melzac collection. Expenditures under the Collections Acquisition, Scholarly Studies and Education Program have been recorded for FY 1980, but not yet for FY 1981 and FY 1982. This explains the variance in totals shown between FY 1980, FY 1981 and FY 1982. The National Museum of American Art can expect to receive and spend funds made available through this Program in FY 1981 and in FY 1982.

Among the other sources of funds are royalties from the sale of publications; honoraria received by staff members while on official duty (such as for lecturing and jurying exhibitions); participation fees from outside museums that receive loan exhibitions organized by and initially shown at the National Museum of American Art; gifts from outside donors which support NMAA exhibitions or purchases of works of art for the permanent collection; tuition reimbursements from universities for students who are accepted as interns at NMAA each fall and spring semester; sales of slides and photographs and rental of transparencies to other organizations or individuals; and funding from outside organizations for public programs in the Museum.

These funds are used to support costs of certain museum publications, purchase works of art, defray travel costs associated with meetings of the National Museum of American Art Commission, cover the special expenses of curatorial staff members engaged in research related to the permanent collection, provide stipends for summer interns in the professional training program, purchase photographic supplies, and supplement special events for the opening of new exhibitions.

Restricted Funds - Funds provided here are in the form of restricted endowments, which specify the use of the donation or bequest, and of gifts and foundation grants by individuals, organizations and corporations for specific purposes. Generally, the restricted funds provide support for a particular exhibition or collection. In FY 1980, funds of \$154,000 were received to defray part of the cost of the acquisition of paintings from the Vincent Melzac Collection, and a further sum of \$15,000 was given by the Cafritz Foundation to assist in the cost of publishing Sculpture and the Federal Triangle, a book which will be a valuable contribution to the history of American sculpture. A grant from the Belgian American Educational Foundation made possible 30 free public performances by Belgian Puppeteers at the Renwick Gallery in conjunction with the exhibition "Traditional Marionettes from French Belgium Today". A grant from the Samuel H. Kress Foundation (\$100,000) in FY 1981 will be used to support the conservation and restoration of the Juley collection of historic photographic negatives. In addition, a gift of \$25,000 from the Charles E. Merrill Trust in FY 1981 will be used to purchase further acquisitions for the Doris Magowan Miniature Gallery. Funds provided by the Laura Barney Trust are used to maintain the Barney Studio House and support its programs (estimated expenditures of \$16,000 in FY 1981 and in FY 1982).

NATIONAL PORTRAIT GALLERY

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	76	2,442	--	31	--	2,781	4	139	--	2
FY 1981 Base	76	2,686	--	22	--	20	4	251	--	--
FY 1982 Estimate	76	2,857	--	17	--	22	3	318	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	76	0	76
Number of Other Positions.....	19	1	20
11 Personnel Compensation.....	1,749	45	1,794
12 Personnel Benefits.....	172	5	177
21 Travel & Trans. of Persons.....	21		21
22 Transportation of Things.....	66	24	90
23 Rent, Comm. & Utilities.....	18	1	19
24 Printing and Reproduction.....	58	12	70
25 Other Services.....	153	40	193
26 Supplies and Materials.....	94	26	120
31 Equipment.....	40	18	58
Acquisitions for collections...	315		315
Total	2,686	171	2,857

Analysis of Increase

Necessary Pay.....	38
Inflation.....	68
Program Funds.....	65

ABSTRACT - The National Portrait Gallery (NPG) was established by act of Congress in 1962 (20 U.S.C. 756) as a museum for the exhibition and study of portraits depicting men and women who have made significant contributions to the history, development and culture of the people of the United States. In FY 1982, an increase of \$65,000 is requested, consisting of: (1) \$35,000 for refurbishment of permanent collection galleries, and (2) \$30,000 for a part-time registrarial assistant to help with loan operations and collection management and for special objects storage equipment in the Registrar's Office. An amount of \$38,000 is required for necessary pay for existing staff and an amount of \$68,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The National Portrait Gallery's mission is unique among American museums: the study and presentation of our country's history through the lives of individual men and women who made significant contributions to the national experience. The Gallery collects, preserves and exhibits portraits in all media both as historical and artistic documents.

The Gallery's basic activities include: the building and care of its collections; the mounting of permanent and temporary exhibitions; research and publication programs for scholarly catalogues and portrait-related studies distributed to national audiences; a variety of innovative educational programs for the general public, school groups and special-interest audiences, all of which employ portraiture and biographical themes drawn from the Gallery's collections and exhibitions; and the ongoing compilation of The Catalogue of American Portraits, which is a large and growing information resource for scholars of American history, biography, and art history unlike any other in the country.

During FY 1980, 345 portraits were added to the collections, 51 by gift. The best known acquisitions were certainly Gilbert Stuart's masterful studies of George and Martha Washington, painted in 1796 (acquired jointly with the Boston Museum of Fine Arts from the Boston Athenaeum through a special nonappropriated Trust fund purchase agreement approved by the Regents of the Smithsonian Institution). Major gifts in FY 1980 included: Alexander Hamilton, painted by John Trumbull and presented by the Honorable Henry Cabot Lodge; an 1812 self-portrait by Samuel F.B. Morse from the James Smithson Society; miniatures of Jefferson Davis and his wife, Varina Howell Davis, from their great-grandchildren; an unusual scene of August Belmont riding in his carriage, given by Paul Mellon; a very rare photograph of the designer of the Brooklyn Bridge, John A. Roebling, given by Mrs. James Elston; and a previously unknown 1770 portrait of "the father of American painting," Benjamin West, presented to the Gallery by the Margaret Hall Foundation. Among the most important purchases made with appropriated funds were: a 1785 portrait of George Washington painted by Robert Edge Pine and one of Massachusetts Colonial Governor William Shirley painted in 1750 by Thomas Hudson; daguerreotypes of Chester A. Arthur, Frederick Douglass, and Harriet Beecher Stowe; a group portrait photograph of the brothers John Wilkes Booth, Edwin Booth, and Junius Brutus Booth, Jr.; a pencil drawing of the artist Thomas Cole by Frederic Edwin Church; an 1864 photograph of Abraham Lincoln; and a rare eighteenth century mezzotint engraving of General Anthony Wayne.

NPG's four major exhibitions of FY 1980 and 1981 span diverse topics. In November 1979, the Gallery opened "Robert Edge Pine: Colonial Portrait Painter," followed in May 1980 by a survey of "American Portrait Drawings." In October 1980, the subject was "Benjamin West and His American Students," a definitive study of a previously neglected and highly important chapter in the history of American art prepared for the Gallery by Dr. Dorinda Evans of Emory University. (This exhibition travels to the Pennsylvania Academy of the Fine Arts when it closes at the NPG.) July 1981 will mark the opening of "Champions of American Sport," a colorful tribute to one hundred of the greatest men and women athletes in our nation's history.

Numerous smaller exhibitions fill out the Gallery's calendar (in FY 1980, exhibitions came almost at the average rate of one per month), and, again, the diversity of subjects is evident. Fifty years after the event, "The Great Crash" recalled the collapse of Wall Street and the onset of the Depression. "Waiting for the Hour -- Lincoln and the Emancipation Proclamation" addressed a watershed event of the Civil War period; "Zelda and Scott: The Beautiful and Damned" presented three rooms full of Fitzgerald portraits, memorabilia, and

manuscripts; the artist Howard Chandler Christy was featured with "Christy Girl" images to complement his self-portrait; and separate shows focused on Belva Ann Lockwood (a candidate for president in 1884 and the first woman to argue a case before the United States Supreme Court) and "Unsuccessful Candidates for the Presidency 1908-1970." In addition to changing periodically exhibitions of prints and photographs from the collections, the Gallery also displayed "Official Photographs: The Carter Administration" in late FY 1980. Early in FY 1981, "The Code Duello in America" is scheduled, and, later in FY 1981, the Gallery will offer a small study of the author Bret Harte and a look at the adventure-filled history of the Pinkerton detective agency.

Plans for major exhibitions beyond FY 1981 include a double survey of portraits by George W. Bellows and Charles Hawthorne; "American Portraiture in the Grand Manner" (organized by the Los Angeles County Museum of Art with NPG's Director, Marvin Sadik, as one of three co-authors); "The World of Charles Willson Peale" (organized by the Metropolitan Museum of Art); a retrospective of the nineteenth century portrait painter Thomas Sully; and "The Black Presence in America: Constitution to Emancipation" which will be the sequel to an acclaimed NPG exhibition presented in 1973.

In the Gallery's increasingly crowded permanent collection areas, major reinstallations are also on the agenda for FY 1981 - 1982. With more second floor space required for eighteenth and nineteenth century images, portraits from the period of World War I and subsequent decades will be transferred to one of the Gallery's two dramatic third floor mezzanines. Selections from the Time magazine cover portraits collection given to NPG in 1978 will henceforth be featured in a special room on the first floor of the Gallery. Another new one room gallery on the first floor will display the work of the nineteenth century artist James Barton Longacre (whose numerous projects formed the basis of the multi-volumed National Portrait Gallery of Distinguished Americans published in 1834-39).

The Smithsonian Institution Press published major illustrated catalogues for "Robert Edge Pine: Colonial Portrait Painter," "American Portrait Drawings," and "Benjamin West and His American Students." A smaller catalogue from the Smithsonian Institution Press also accompanied "The Code of Duello in America," and a similar one is planned for the Pinkerton exhibition. (Champions of American Sport is being published by a commercial publisher.) In addition, the Smithsonian Institution Press published the second edition of the Gallery's Illustrated Checklist of the Permanent Collection in FY 1980. This invaluable reference volume will be updated throughout FY 1981 for another biennial edition to appear in FY 1982 and a color microfiche format version is being prepared for international distribution by Chadwyck-Healy/Somerset House of Great Britain.

After seven years of labor, The Collected Papers of Charles Willson Peale and His Family, assembled and organized by the Gallery's staff under the direction of Dr. Lillian B. Miller, Editor and Historian of American Culture, has been published in microfiche format by Kraus Microform. Work is now in progress on the eight volume letterpress edition (complete with annotations and explanatory references) of these richly informative papers, to be published over several years' time by the Yale University Press.

The University Press of Virginia will publish a collection of studies (three of which are by NPG staff members) originally given for the meetings of the American Print Conference sponsored by the NPG in FY 1979. The manuscripts for this are being edited and prepared for publication by the NPG's Editor and Curator of Prints. The Curator of Prints is also concluding her research for a

definitive reference catalogue of American Eighteenth Century Portrait Prints; private funding from the Barra Foundation is anticipated for partial support of both publications.

One of NPG's Associate Curators is also readying a definitive catalogue of The Portrait Engravings of C.B.J.F. de Saint-Memin and the Curator of Photographs is choosing classic American portrait photographs for a volume to be published by Pantheon Books; both of these titles are now scheduled for publication in FY 1982.

In the category of special programs, the Gallery sponsored a "Living Self-Portrait" lecture entitled "My Life as a Jewish Writer" by Nobel laureate Isaac Bashevis Singer in October 1979. In October 1980, the second NPG Symposium on Biography was convened. Edmund Morris, Theodore Sorensen, George Reedy, and Fawn Brodie, addressed the topic of "The Presidential Personality," and a publication incorporating their texts is now in the planning stages. The symposium was funded in part by a grant from the Smithsonian's Educational Outreach Program and was attended by approximately 200 invited guests.

Throughout FY 1980 and FY 1981, NPG's Education Department has sponsored a continuing series of popular "Portraits in Motion," including weekend performances, demonstrations and interpretive programs (for audiences ranging between 100 and 400 each) which take place in permanent collection galleries. In FY 1980 and FY 1981, the series focused on Tallulah Bankhead, Edna St. Vincent Millay, Isadora Duncan, Harriet Tubman, the creators of the Harlem Renaissance in American arts and letters, Paul Robeson, Bill "Bojangles" Robinson, Ruth St. Denis, Belva Ann Lockwood, the art of silhouette cutting, Stephen Foster, H.L. Mencken, Mark Twain and Cole Porter, among other subjects.

During FY 1980, the Education Department also sent volunteer docents and specially trained, paid aides into 614 school classrooms to present Gallery developed programs to 13,016 students. In the same year, 657 school group tours of NPG were given, with 12,797 students attending. Other activities of the Department (special lectures, outreach presentations to various audiences, scheduled and unscheduled adult tours, etc.) brought the Department's total FY 1980 audience to 34,079. In the first two months of FY 1981, 8,763 persons were served, a 9 percent increase over the same period in FY 1980. During FY 1981, a special weekend demonstration program was offered under the auspices of the Department to legally blind persons wishing to experiment with photography as a special means of access to museum collections. This six week instructional program was devised for the Gallery by George Covington, a nationally known photographer who is legally blind.

FY 1980 was the second year of the seven year, nationwide survey of significant American portraits being conducted under the auspices of the Gallery's Catalogue of American Portraits (CAP). Three field researchers canvassed important public and private collections in New York City, Massachusetts (for six months), Connecticut, and Rhode Island. In FY 1981, the survey will be continued in these areas, and in FY 1982, three new researchers will begin work in Maine, Vermont, New Hampshire, Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, and Iowa. In the course of the project's second year, approximately 45 major institutional and private collections have been surveyed and over 5,000 new records (complete with photographs) have been added to the Catalogue of American Portraits' data base of over 67,000 records. Moreover, computer printed indexes of major collections visited during the survey's initial stages have been completed and placed with appropriate institutions in Pennsylvania, New Jersey, and Delaware. Cumulative, regional indexes also are being prepared for deposit at selected central research facilities in each region as soon as possible after the survey has been completed in those regions. This project has

been supported in part by a grant from the Andrew W. Mellon Foundation, as well as the Ambrose Monell Foundation, Thomas Mellon Evans, and numerous other private benefactors in the states where surveys have been in progress.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of \$65,000 is requested: \$35,000 for immediate priority refurbishment of permanent collection galleries and \$30,000 for greater collections management activity and increased exhibition and loan program support in the Registrar's Office.

NPG's permanent collections usually are displayed in the popular Hall of Presidents, 20 second floor galleries connected by two long corridors, and five first floor galleries connected by two more long corridors. (In FY 1981, additional space will be devoted to the exhibition of the permanent collections on the eastern mezzanine overlooking the third floor Great Hall.) As the collections have grown, their contents have been shifted continuously from room to room to preserve thematic groupings while making space for important new additions. Apart from the installation of essential improved lighting several years ago and repainting during two comprehensive reinstallations of the collection, 15 rooms on the second floor are almost exactly as they were when the building opened to the public in 1968, except for the inevitable signs of wear and tear. Program funds never have extended far enough to allow the same degree of attention to these areas as has been typical of the installations of the Gallery's renowned special exhibitions in its first floor temporary exhibition space. Funds of \$35,000 are sought to permit the Gallery to begin a systematic exhibits maintenance program which would commence with refurbishing the second floor rooms and eastern corridors, making them worthy settings for their contents. The funds will be used to replace badly worn and spotted carpeting, damaged venetian blinds, and benches having upholstery which is disintegrating. Moreover, walls in many of the rooms need stripping or plaster skimming to provide uniform surfaces, repair numerous surface cracks and correct the cumulative effects of years of display changes.

Another positive result of the growing size and importance of the Gallery's collections has been a heightened public awareness of and interest in all its activities. Requests by other museums around the country to borrow portraits from the collections and outside interest in participating in the exhibition programs have increased substantially in the last few years. These trends are expected to continue in the years ahead. (In FY 1975 for instance, the Registrar recorded 203 outgoing art shipments involving 365 objects. In FY 1980, the figures had jumped to 382 shipments involving three times as many individual objects.)

The increasing loan activity affects heavily the Registrar's Office where all the details of packing and other preparation for shipment, insurance, scheduling, and record keeping must be managed. There are only three full-time positions in the Office: the registrar, an assistant registrar, and a museum technician/clerk. With the Gallery's full exhibition and loan program, the two registrars are more and more frequently "going on the road" to collect or deliver art shipments in Smithsonian vehicles -- a function essential for both cost and quality control. The museum technician/clerk staffs the office in their absence, but another person is urgently needed for the daily movement of art works within the Gallery, for additional help in the maintenance of storage areas and systems, for receipt and dispatch of individual shipments, and for related assistance to other NPG departments.

Additional screens and bins (for hanging framed pictures or safely stacking unframed ones) also will be needed as the volume of loan transactions continues to rise. For the longer term, specially designed and fabricated boxes and shelves are required for secure storage of the Gallery's own miniatures,

documents, manuscripts, life masks, death masks, small sculptures and assorted objects of glass, plaster, various metals, and ceramics. At present, several hundred such items are kept on overcrowded open shelves, temporarily cleared countertops, or in the feltlined wooden drawers of a surplus cabinet that occupies an inordinate amount of floor space in the combined storage room/Registrar's Office. With storage space in general at an ever increasing premium in the Gallery and the collections continuously expanding, a unit to house these objects with maximum security and efficiency has become a necessity.

For registrarial assistance and storage equipment in the Registrar's Office, an amount of \$30,000 is requested. The funds will be used for a part-time assistant (\$12,000) and for compact and secure storage systems for specialized storage (\$18,000).

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are derived from a variety of sources including the Museum's share of sales in the museum shop and restaurant, royalties from publication contracts, sales of photographic reproductions of portraits in the collection, private contributions made for discretionary use, staff honoraria, participation fees from museums to which the National Portrait Gallery (NPG) exhibitions are loaned, and allotments including those from the Institution's Collections Acquisition, Scholarly Studies and Education Program. Funds from this Program were used toward the joint acquisition with the Boston Museum of Fine Arts of the Gilbert Stuart portraits of George and Martha Washington; because of the importance of these portraits, additional unrestricted Institutional funds were used to supplement this major acquisition for a total cost of \$2,750,000. Expenditures under this Program have not been recorded for FY 1981. This explains the variance in totals shown between FY 1980, FY 1981 and FY 1982. Also during FY 1980, a \$10,000 gift provided from the James Smithson Society was used to acquire a rare self-portrait of Samuel F. B. Morse. The funds provided also are used to defray expenses of special public lectures, symposia and events held separately or in connection with the presentation of special exhibitions; for associated costs of loan exhibition development and management; for travel costs of the National Portrait Gallery Commission; for research and related expenses of professional staff preparing lecture topics or special publications; and for refurbishment, repair or replacement of restaurant equipment.

Restricted Funds - Funds are provided for specific purposes in the form of gifts and foundation grants from individuals, foundations, organizations, or corporations. Such funds are either received in a single year payment or in phases over the course of several years and are intended to support a particular Gallery program or project. For example in FY 1979, the Andrew W. Mellon Foundation provided a multi-year grant of \$340,000 for a national survey to be used in the development of The Catalogue of American Portraits (FY 1980 expenditures of \$89,000). In another instance, Philip Morris, Inc., has extended generous corporate sponsorship for various exhibition costs of "Champions of American Sport" in the form of a multi-year grant of \$150,000. Estimated expenditures are expected to average \$50,000 a year beginning in FY 1981.

The National Portrait Gallery anticipates continued success in its fund-raising efforts in FY 1982.

HIRSHHORN MUSEUM AND SCULPTURE GARDEN

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	80	2,200	--	23	--	49	--	137	--	--
FY 1981 Base	80	2,406	--	23	--	35	--	315	--	--
FY 1982 Estimate	80	2,523	--	19	--	62	--	100	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	80	0	80
Number of Other Positions.....	3	0	3
11 Personnel Compensation.....	1,582	31	1,613
12 Personnel Benefits.....	146	3	149
21 Travel & Trans. of Persons.....	15	3	18
22 Transportation of Things.....	91	6	97
23 Rent, Comm. & Utilities.....	16	1	17
24 Printing and Reproduction.....	58	5	63
25 Other Services.....	152	36	188
26 Supplies and Materials.....	80	6	86
31 Equipment.....	27	7	34
Acquisitions for collections...	233	16	249
41 Grants.....	6	3	9
Total	<u>2,406</u>	<u>117</u>	<u>2,523</u>

Analysis of Increase

Necessary Pay.....	34
Inflation.....	58
Program Funds.....	25

ABSTRACT - Established by Act of Congress (P.L. 89-788, November 7, 1966), the Hirshhorn Museum and Sculpture Garden (HMSG), a major museum of contemporary art, maintains an active program of exhibitions drawing from its own and other collections. The Museum prepares catalogues and conducts educational activities, including film programs, lectures, concerts, publications, and tours. The Museum also has an active research program which produces publications in the field of modern art. Technical and support units include the offices of conservation, registration, photography, and a reference library.

For FY 1982, an amount of \$25,000 is sought to increase support for outreach programs under the aegis of the Department of Education. Necessary pay in the

amount of \$34,000 is required for existing staff and an amount of \$58,000 is requested to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - In October 1980, the Hirshhorn Museum and Sculpture Garden, which opened to the public in 1974, celebrated its sixth birthday. As one of the few major museums of contemporary art in this country, the Museum operates an active exhibition program along with related programs of lectures, films, concerts, and educational activities involving audiences of all ages.

The Museum's schedule calls for four major exhibitions each year. Smaller shows are also scheduled, based as often as possible, on the Museum's own collection.

The major exhibitions shown in FY 1980 are "Murals Without Walls: Arshile Gorky's Aviation Murals Rediscovered" along with the Museum's works by the same artist; "Fernando Botero;" "Miro: Selected Paintings;" and "The Fifties: Painting in New York, 1950-60." Smaller exhibitions included: "Josef Albers: Works from the Collection;" "Oscar Bluemner: The Hirshhorn Museum and Sculpture Garden Collection;" "Raphael Soyer: A Birthday Celebration;" "Hans Richter's: 'Stalingrad (Victory in the East);'" "Alexandra Exter: Marionettes;" "Brancusi Photographs;" "Art Deco Posters from the Collection of the Library of Congress;" "New York: The Painter's View;" and "From the Cape: Landscapes of Edwin Dickinson." Also augmenting the Museum's exhibition program was a series of lectures on various aspects of contemporary art and art history.

Major exhibitions planned for FY 1981 are: "The Russian Avant Garde (1910-1925);" "Directions;" "Kenneth Snelson Sculpture;" and "R. B. Kitaj." Smaller special exhibitions, drawn from the permanent collection, will also be presented.

Major exhibitions scheduled for FY 1982 are: "Cities, Houses, Rooms," De Stijl, and "David Smith: Paintings and Sculptures."

To enhance visitor appreciation of specific exhibitions and of modern art in general, the Hirshhorn provides visitors with a variety of instructional materials, including explanatory wall labels and texts. The texts range from a single page to illustrated mini-catalogues and are distributed free to the public. The Museum also conducts film series including lunchtime films about artists, evening films by artist filmmakers and Saturday films for young people. Other events held in the auditorium during FY 1980 were concerts by the 20th Century Consort and the Cantilena Chamber Players. Another popular activity is "Hirshhorn Holiday", a presentation of mime, music and puppetry designed for children, which has become an annual event during the Christmas season.

In FY 1980, the Hirshhorn continued its comprehensive inventory of the permanent collection. Started in FY 1978 with an inventory of sculpture, and continued in FY 1979 with paintings, the final third of the cycle conducted in the summer of 1980, examined works on paper. In FY 1981 the cycle will begin again with an inventory of sculpture.

In order to keep its collection contemporary, a museum of contemporary art must continue to acquire art. During FY 1980, the Museum acquired 121 works of art, of which seven were purchased with Federal funds. Of the latter, important acquisitions included works of art by Joseph Cornell, Arthur Dove and Tony Smith. Major purchases with nonappropriated Trust funds were Gaston Lachaise's "Standing Woman (Heroic Woman)" and Joan Miro's "Woman Before an Eclipse With Her Hair Disheveled by the Wind." Among others, two large-scale gifts were received by the Museum, one consisting of 41 contemporary paintings and

sculpture, the other of 28 contemporary sculptures and 14 Benin bronzes. Of artists represented, there are important works of art by Kenneth Snelson, Alma Thomas, Michael Todd and Issac Witkin.

To make the Museum's collection as accessible as possible to the widest audience, extensive loans are made to museums in the United States and abroad. In FY 1980, the Hirshhorn Museum lent 155 works of art to 58 institutions including La Biennale di Venezia, Venice, Italy; Academie der Kunst, Berlin, Germany; Musee National d'Art Moderne, Centre Georges Pompidou, Paris, France; Detroit Institute of Arts, Fort Wayne Art Institute, and the Solomon R. Guggenheim Museum in New York, New York.

Members of the staff continued to lecture at the Museum and at other institutions; to write for publication; to work with graduate and undergraduate museum interns and Smithsonian Fellows; to respond to written inquiries and visits from scholars, students, and artists; and to carry forward the tasks of research and documentation.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of \$25,000 to support outreach programs of the Hirshhorn Museum's Department of Education is requested.

Of equal importance to the exhibitions, research and publication programs are the Museum's education endeavors. Both inside the Museum and off site, the Department of Education organizes a great variety of activities ranging from scholarly lectures to film programs for children. Among activities within the Museum are exhibition and gallery tours (during FY 1980, more than 19,000 visitors participated in some 1,100 tours given by an enthusiastic group of 81 docents); three series of film programs on contemporary art, artists and film; a noontime lecture series; a concert series in cooperation with the Division of Performing Arts; lectures and symposia in cooperation with the Resident Associates Program; a summer intern program for juniors in college; and a pre- and post-doctoral fellows program.

Outside the Museum, the Department conducts various extension or outreach programs, the principal aim being to attract and build new audiences who will better understand what they see when they visit the Museum. Such programs have been developed specifically for elementary school tour groups (titles of presentations include "Light and Shadow" and "What Is Modern Art?"), for talented and gifted children (an eight-week series for sixth graders and a six-week series for junior high school students), and for a variety of other special groups including senior citizens in nursing homes and other senior facilities, the physically and emotionally handicapped and the learning disabled. Being planned now are two new pilot programs which will be experimented with in FY 1982--one for senior high school students and one for pre-school and early elementary school students.

These programs are all immensely successful, and as they become established and better known, the demand for them increases and is already, in spite of active volunteer help, outdistancing the Department's ability to respond. All the activities are run by only three people--a Department Director and two Docent Coordinators supported by an auditorium technician and a clerk typist. The staff not only creates the programs, but manages them, makes many of the presentations, and recruits, trains, and supervises the volunteers. To assist in these endeavors on which the Museum places major emphasis, an amount of \$25,000 is requested to increase support of the Museum's Department of Education, in particular, its outreach programs. The funds will provide for the services of two art history instructors who will be hired on contract as well as related and badly needed supplies and materials.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided from the Museum's share of sales in the museum shop, product development activities, sales of exhibit brochures; from other receipts such as fountain coins; and from allotments including those from the Institution's Collections Acquisition, Scholarly Studies and Education Program. In FY 1981 funds provided by this program were used to supplement the acquisition of important major works of art such as Gaston Lachaise's "Standing Woman (Heroic Woman)" and Joan Miro's "Woman Before an Eclipse With Her Hair Disheveled by the Wind." Expenditures for these purchases have not yet been recorded. In addition, other funds provided are used to finance travel costs associated with meetings of the Museum's Board of Trustees, to purchase less expensive works of art and to defray the costs of special events held in connection with the opening of new exhibitions.

Restricted - Funds provided here are generally from individual gifts, bequests and foundation grants which specify the use of the funds. Generally, these funds are used to acquire or supplement the acquisition of important major works for the permanent collection. In FY 1980, for example, these funds provided the initial payment (\$75,000) to supplement the FY 1981 acquisition of Gaston Lachaise's "Standing Woman (Heroic Woman)." In FY 1981, funds raised from outside sources will also be used to supplement the acquisition of Joan Miro's "Woman Before a Eclipse With Her Hair Disheveled by the Wind."

FREER GALLERY OF ART

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
			FTP*	Amount	FTP*	Amount				
FY 1980 Actual	29	656	-	10	-	367	20	1,050	-	-
FY 1981 Base	30	752	-	9	-	-	19	1,247	-	-
FY 1982 Estimate	31	874	-	19	-	-	19	1,282	-	-

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	30	1	31
Number of Other Positions.....	7	1	8
11 Personnel Compensation.....	628	71	699
12 Personnel Benefits.....	56	7	63
24 Printing and Reproduction.....	4	16	20
25 Other Services.....	17	12	29
26 Supplies and Materials.....	35	15	50
31 Equipment.....	12	1	13
Total	752	122	874

Analysis of Increase

Necessary Pay.....	14
Inflation.....	6
Program Funds.....	102

ABSTRACT - The Freer Gallery of Art has a continuing program to search for and to acquire works of Oriental art of the highest quality and to conserve, study and display those objects as keys to understanding the civilizations that produced them. For FY 1982, an increase of one position and \$102,000 is requested consisting of one position and \$43,000 for an Oriental art restoration specialist to head the restoration and conservation studio, an essential and integral part of the continuing maintenance of the collection; and an amount of \$59,000 for continued improvements to various aspects of the exhibits program. Necessary pay in the amount of \$14,000 is required for existing staff and an amount of \$6,000 is sought to compensate for the effects of inflation in non-salary areas of expense.

PROGRAM - The Freer Gallery of Art houses one of the most distinguished collections of Oriental art in the world. The collection consists of approximately 12,000 works of art from China, Japan, Korea, India and the Near East and spans 5,000 years. Included in the collection are paintings, sculptures and other objects in stone, wood, lacquer, jade, pottery, porcelain, bronze, gold and silver; and Biblical manuscripts. "The Peacock Room" by James McNeill Whistler highlights an outstanding collection of American art that Charles Lang Freer considered a bridge between the East and West. Items not currently on exhibition are available in the storage areas to students and scholars. In addition to the collections, the Gallery houses a public library of approximately 27,000 volumes relating to the objects in the collection.

The unique Oriental collections of the Freer Gallery, together with notable holdings of American paintings, have made the museum a center for students, scholars and the general public on an increasing basis. This growing interest has been manifested in a steady increase in visitors, in requests for museum tours, in lengthy periods of advance bookings for authentication appointments, and in the number of visiting scholars and dignitaries.

Important recent changes in the Gallery are the innovative exhibition techniques adopted in various galleries, including free-standing hanging scroll supports, various plexiglas structures for Oriental paintings which also serve as protective devices, and wooden lattice support structures behind hanging scrolls. Experimentation to improve general lighting and accent lighting continues. A continuing effort is being made to accommodate the handicapped in all areas of the building.

Work to complete the photographic files of the collection is continuing. Greater effort now can be placed on expanding the research files on the individual pieces in the collection. These files are made available to visiting scholars and students. Further work to complete the Islamic Archives was accomplished with the addition of more slides and photographs given to the Archives.

Freer Gallery research facilities--comprising the collections, curatorial staff, library, and conservation laboratories--form the nucleus of its specialized public service. During FY 1980, new exhibitions provided visible evidence of the results of curatorial and conservation research activities. Enthusiastic press reviews of these exhibitions and the record number of visitors (322,000, an increase of 11 percent over the previous year) to the Gallery are two indications of the positive receptions these exhibitions enjoyed.

Two major special exhibitions for FY 1980 were "A Decade of Discovery: Selected Acquisitions, 1970-1980," and "Chinese Calligraphy." The first exhibition presented 114 objects of art spanning 21 centuries, from the third millennium B.C. to the 19th century, representing cultures as far apart geographically as the shores of the Mediterranean, the subcontinent of India and the islands of Japan. Wherever possible, cultural parallels were established, enabling visitors to compare and contrast artifacts from the Near and Far East. The second major exhibition was comprised of a major collection of Chinese calligraphy recently acquired through the Institution's Trust funded major acquisitions program. Each of the 12 hanging and hand scrolls in the collection is of the finest quality, and several are unique works by the greatest masters in Chinese calligraphic history.

Two smaller exhibitions were assembled subsequently. In November of 1980, "Great Traditions in Chinese Landscape Painting" replaced the "Chinese Calligraphy" exhibit. On display were 27 Chinese paintings that range in time from the 11th to the 18th centuries. Several of these, although not new

acquisitions, never had been exhibited before. "Ancient Chinese Jades" opened in September with 130 jade objects, dating from the third millennium B.C. through the 3rd century A.D. Of particular interest was a group of ritual implements newly attributed to the prehistoric era of the Neolithic or New Stone Age.

Four small exhibitions involving Japanese works opened in 1980. For "The Year of the Monkey," 13 Japanese and Chinese screens, scrolls and lacquerware depicted different representations of the monkey. "Two Centuries of Japanese Ceramics, 1550-1750" had on display approximately 40 examples of Japanese stoneware and porcelain selected to highlight important regional types developed between 1550-1750; ceramics from the Kyoto, Kyushu and Mino regions were included. Sixteen examples of "Japanese Fans" dating from the 16th to 19th centuries illustrated the use of this art form in Oriental society; many of the 19th century fans, recently restored and mounted, never had been exhibited. On display in "Screens of the Rimpa School" were six screens that typify the elegant and decorative painting of the 17th and 18th century Rimpa school of Japan.

Opening in June was an exhibition of 28 paintings, pastels, and drawings by the American artist, Thomas Wilmer Dewing, (1851-1938), selected from the Freer's collection. Many are displayed in the gilded frames designed for them by the architect Stanford White. Also on view during 1980 were 20 paintings from the court of India's 17th century Mughal emperors in an exhibition entitled "Imperial Mughal Albums." In "Art of the Arab World," ceramics, glass, and paintings represented the cultural heritage of the Arabic people. Opening in November was an exhibition entitled "Turkish Art." Among the 30 objects on display were manuscripts, ceramics, metalwork, and jade, mostly from the 16th century, the height of the Ottoman empire.

In the spring of 1981, "Egypt Today"--a celebration honoring the cultural, intellectual and economic life of contemporary Egypt--will open in various cities across the United States. As part of its participation in the celebration, the Freer Gallery will install a special exhibition of "Egyptian Glass" in March. Approximately 30 pieces of glass from the Freer collection will be included. A lecture on "Ancient Glass: Its Marvels and Mysteries" will mark the opening of the exhibit. In June 1981, a complementary exhibit of Egyptian and Syrian "Mamluk Art" from the Freer collection will be on display simultaneously with a larger exhibition, "Renaissance of Islam: Art of the Mamluks," in the National Museum of Natural History/Museum of Man.

Another complementary exhibit on "Korean Art" will parallel the major exhibition "5000 years of Korean Art," also scheduled for the Special Exhibits Gallery in the National Museum of Natural History/Museum of Man.

Renovation of the heating, ventilating and air conditioning system at the Freer Gallery of Art will necessitate the closing of portions of the Museum to the public from mid-January through mid-April 1981. This major renovation work is scheduled in three phases beginning in FY 1981 and ending in FY 1983.

Following the 1981 renovation work, the Freer Gallery's next major exhibition will be in September 1981. "Imperial Mughal Paintings" contains paintings that were executed during the reigns of the three great Mughal rulers of the period 1542-1658. The splendor of the 60 miniature paintings and the manuscripts reflect the magnificence of the courts of these rulers. The painters were among the most outstanding masters of their age. The albums of paintings provide a rare insight into the personalities of the Indian Mughal emperors who commissioned them and illuminate the social and political conditions of the period. Professor Milo Cleveland Beach of Williams College, with support of a Smithsonian Trust funded Regents' Fellowship, is preparing this special exhibition at the Freer Gallery.

As part of the Freer's education program during FY 1980, the Gallery offered six Oriental art lectures covering a wide range of topics relating to the holdings of the Museum. This popular lecture series will be continued in 1981. Other parts of the education program include a free introductory brochure given to the public and mailed to students who write for general information on the Freer, the development of a docent program in FY 1981, and experimentation with free exhibitions leaflets introducing various aspects of the Gallery's collections.

EXPLANATION OF PROGRAM INCREASES - For FY 1982, an increase of one position and \$102,000 is sought for two areas of the Freer's program, conservation and exhibitions.

The Gallery's Oriental art restoration studio is responsible for the conservation of some 1,900 oriental paintings and drawings, each of which requires periodic treatment by highly trained specialists. Approximately one third of this collection is in need of immediate attention--a body of work representing some 50 workyears of effort. To meet this need the Gallery has maintained a staff of three eminent Japanese restorers, two of whom have recently retired after long careers as Trust fund employees paid from endowment earnings of the Freer. Salary growth and other object inflation, however, have far outstripped endowment earnings, and a request is therefore made to hire one replacement conservator with new Federal funds. One position and \$43,000 is requested for this purpose.

The Freer's exhibition program represents a targeted area of growth for FY 1982. In the past, the Gallery traditionally mounted two major shows and four or five minor shows each year. Following the major renovation of the Museum's heating, ventilating and air conditioning system which is taking place this year, the Freer Gallery wishes to build on the recently strengthened curatorial staff and modest exhibition innovations of the past two years with an invigorated exhibit program.

An amount of \$59,000 is sought for exhibitions in FY 1982 and will be used for three aspects of the program. First, an amount of \$22,000 will provide support funds needed to install one additional exhibition each year and also will be used for enhanced exhibit labels and installation techniques throughout the Gallery. A further \$22,000 will be used to hire a part-time visual information specialist, who will be responsible for the design of all Freer printed materials and exhibit layouts, thus relieving the curatorial staff of such responsibilities and allowing them to place greater emphasis on research and on the writing of exhibition catalogues. The remaining \$15,000 is being sought in publication funds. These additional funds will enable the Freer to provide free gallery leaflets to the visiting public with descriptive and explanatory material expanding the information available from exhibit labels. All three aspects are intended to expose more of the Freer's rich collections to the public in ways that will serve to increase the understanding and aesthetic appreciation of the cultures of the East.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided from allotments and are used to defray the costs of special events associated with the opening of new exhibits and to cover the travel costs of the members who attend the Gallery's Visiting Committee meetings. In FY 1980, an allotment of \$361,000 provided from the Institution's Collections Acquisition, Scholarly Studies, and Education Program was used to purchase a major collection of

Chinese calligraphy. Expenditures under the Collections Acquisition, Scholarly Studies and Education Program have been recorded for FY 1980, but not yet for FY 1981. This explains the variance in the totals shown between FY 1980 and FY 1981 and FY 1982. The Gallery can expect to receive and spend funds made available through this Program in FY 1981 and FY 1982.

Restricted Funds - The major portion of the nonappropriated Trust funds used by the Gallery stems from the Freer Gift and Bequest and is restricted by the conditions that are stipulated therein. The funds are used to help finance expenses of the professional curatorial staff, the administrative staff, acquisitions for the collections and library, the maintenance of the Freer's courtyard and the operation of the Freer museum shop.

ARCHIVES OF AMERICAN ART

(Dollars in thousands)

(dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	17	521	--	1	--	6	9	464	--	--
FY 1981 Base	17	596	--	--	--	--	9	386	--	--
FY 1982 Estimate	17	658	--	--	--	--	9	394	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	17	0	17
Number of Other Positions.....	2	0	2
11 Personnel Compensation.....	466	11	477
12 Personnel Benefits.....	41	1	42
21 Travel & Trans. of Persons.....	11	5	16
22 Transportation of Things.....	5	2	7
23 Rent, Comm. & Utilities.....	32	7	39
24 Printing and Reproduction.....	21	22	43
25 Other Services.....	3	1	4
26 Supplies and Materials.....	10	10	20
31 Equipment.....	7	3	10
Total	596	62	658

Analysis of Increase

Necessary Pay.....	12
Inflation.....	8
Program Funds.....	42

ABSTRACT - Since its beginning in 1954, the Archives of American Art has pursued its primary function of stimulating research and publication in American art history. It acquires artists' papers and the records of art galleries, museums and art societies, and makes these resources easily available through microfilm and a national network of regional research centers. The Bureau preserves the oral, in addition to the written word, through its Oral History Program. Interviews with key individuals involved in American art provide the researcher with valuable information to supplement more conventional records.

For FY 1982, an increase of \$42,000 is sought, consisting of: \$18,000 to help maintain the existing collection acquisitions program; and \$24,000 to expand microfilming capabilities and to purchase essential conservation

supplies. An amount of \$12,000 is required for necessary pay for existing staff and an amount of \$8,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Archives of American Art was established in 1954 and headquartered in the Detroit Institute of Arts. Its birth and subsequent growth met the need for a centralized repository of documentation on the visual arts in America. Over the last 26 years, it has provided the means for stimulating scholarship in American art by assembling the papers of American artists, as well as the records of museums and galleries. This material, consisting of letters, sketchbooks, notes, diaries, photographs and business records, is filled with historical data concerning people and events of significance to American culture. Once accessioned, catalogued, and processed, the material is then microfilmed, making the Bureau's complete holdings easily accessible to researchers. The microfilm is available for viewing in five regional centers located in Detroit, San Francisco, Boston, New York and Washington and may be borrowed through interlibrary loan.

The Archives incorporates in its collecting efforts an active Oral History Program. Its importance in documenting the visual arts has grown significantly as more and more interviews completed reveal unique information useful to American art scholars. The Bureau also has begun to expand its audiovisual program and is attempting to make it a more active part of its overall collecting effort. A visual presentation of an artist and his/her studio or work can provide additional meaning and depth to what may be contained in a group of papers.

In FY 1980, the Archives received approximately 350 collections. Several especially important acquisitions included the papers of H. Siddons Mowbray, painter; A. Hyatt Mayer, leading museum figure; Gertrude Vanderbilt Whitney, sculptor, patron and founder of the Whitney Museum; Alma Spreckels, founder of the California Palace of the Legion of Honor; and the records of the Vose Gallery, Boston's leading art gallery for nearly a century, and of the Crocker Art Museum of Sacramento, the first public art museum on the West Coast.

Nearly 30 oral history interviews were completed in FY 1980. The program captured the reminiscences and observations of such art figures as Mrs. Bernard Reis, widow of a major collector and financial adviser to artists; John Davis Hatch, a leading museum figure and collector; Barbara Morgan, photographer; former museum directors Joseph Fraser and Adelyn Breeskin; artists Richard Diebenkorn, Sam Francis, and Jack Perlmutter. During FY 1980 the Archives completed or was given several audiovisual interviews. Subjects of these taped sessions included Marcia Tucker, Barbara Rose, Holly Solomon and George Segal.

Sharing equal importance with acquisitions are the conservation and research programs. All collections which have been given to or deposited with the Archives are subject to conservation measures and are eventually stored in climate controlled areas. In FY 1980, the Collections Management processing division in Washington received nearly 450 gift and loan collections (including some from the previous year) amounting to 400 boxes containing an estimated 270,000 items. During that same period, 185 collections were filmed on 492 master negative rolls. Reader copy distribution amounted to over 1,200 rolls. The staff produced 5,500 new catalogue cards providing information on the contents of the collections.

The success of fulfilling the Archives' mandate to stimulate research and publication is measured in use and published works. In FY 1980, the Archives was visited by 3,000 researchers and answered 450 interlibrary loan requests for over 1,200 rolls of microfilm. Over 5,000 letters or calls of inquiry were

received and processed. A number of exhibitions showed material from the Archives' collections. In New York, letters, catalogues, and photographs were displayed in exhibitions at the Whitney Museum and the Metropolitan Museum. In California, the Archives collaborated on an exhibition at the Los Angeles County Museum and with the Western Association of Art Museums in an exhibition on California art. Over 90,000 visitors viewed a major show of John Singer Sargent paintings at the Detroit Institute of Arts, which included valuable documentation on Sargent from the Archives. Numerous lectures and talks were given by the staff on the holdings of the Archives and on the Archives itself and how it functions. The second annual Archives symposium in Boston was held in April with an excellent possibility of publishing the papers given.

Recent examples of published works based on Archives holdings include books such as America and its Painters, 1908-1978 (published in France), biographies of Rockwell Kent, Bernard Berenson, and Thomas Moran, and major exhibition catalogues on the work of John White Alexander, Joseph Cornell, Hugo Rubus, Marsden Hartley, Oscar Bluemner, and David Smith.

The Archives will continue to co-sponsor symposia, with three such events planned in FY 1981. In addition, three exhibitions incorporating material from the Archives' Collection are scheduled. In Boston an exhibition featuring Arthur B. Davies will open in March of 1981. At the Detroit Institute of Arts, a special exhibition of documents on David Smith will take place. At the deYoung Museum in San Francisco, the Archives will place in exhibition a number of prints, drawings, and sketches from its holdings. The publication of the Archives card catalogue, consisting of over 45,000 cards, will occur in early 1981. Added to several other published finding aids, this resource will offer researchers worldwide a comprehensive bank of information on the Archives' holdings.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of \$42,000 is requested. Funds of \$18,000 are sought for the Archives' acquisition program and an amount of \$24,000 is requested for collections management, including conservation purposes.

The acquisitions program, which represents the foremost task of the Archives, requires additional funding in order to be maintained at an acceptable level. Through the acquisition of artists' papers and institutional records, the Archives saves valuable documentation on the visual arts. The five regional directors, who are responsible for soliciting collections as gifts or loans, have been hampered severely in their efforts as a result of inadequate funds for travel, office leasing, shipping and equipment. In order to locate and acquire collections, each director must travel throughout a large area of the country. Once acquired, collections are stored in regional offices, and then shipped to the Archives center in Washington for processing, conservation, microfilming and storage in acid free folders. While travel funds have increased 22 percent in two years time, actual costs have risen 34 percent. Even the cost of Government Services Administration motor pool vehicles, the principal and cheapest method of travel, has risen 20 percent in the same period. Transportation costs for shipping collections between offices have increased substantially within the last two years and the cost of leased space has risen dramatically. For example, the cost of leasing the same square footage in New York City, went up from \$17,600 to nearly \$25,000 between 1978 and 1980. It should be noted that these cost increases have far outstripped the amounts appropriated for inflation in FY 1981 and requested for FY 1982.

As a result of these rapid cost increases, the collecting of historically important papers is being delayed or abandoned altogether. Because of inadequate shipping funds, other new collections are being stored in regional centers

for extended periods of time, thereby increasing the possibility of loss or damage and subjecting the papers to unnecessary deterioration. Moreover, in some instances, rather than hiring professional shippers, material is being moved by staff members, which is cheaper but less efficient and could result in damage to the collections and injury to personnel. To help correct this situation the Archives has reprogrammed some of its scarce equipment funds to expenses associated with its acquisition program. An additional \$18,000 is requested to enable the Archives to maintain an acceptable acquisition program, and at the same time, restore the funds reprogrammed from equipment purchases. The funds will be used for travel, shipping, leasing and equipment.

A further amount of \$24,000 is sought for collections management purposes, specifically for microfilming and for conservation supplies.

By microfilming collections, and making them available in its five regional centers and through interlibrary loans, the Archives gives access to its holdings on a national and even worldwide basis. While the funds available for microfilming have increased over the last several years, the quantity of film produced has decreased. This is due to the increase in the cost of microfilming (up 20 percent since 1979) and the dramatic rise in film duplication prices (up 29 percent since 1979). The gap between filmed and unfiled collections has widened, partly as a result of this continuing decrease in filming activity (presently, approximately 35 percent of the collections are unfiled). Moreover, reduction in microfilming increasingly limits access to the collections. Conservation measures employed in maintaining the collections also call for a large quantity and diversity of acid free paper products. With hundreds of thousands of items being added to the collection each year, the Archives quickly uses up substantial amounts of boxes, folders, tissue paper, and labels. The amount of \$24,000 sought for FY 1982 will allow the Archives to increase its microfilming capacity and provide the conservation supplies needed to care properly for the collections.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by an allotment and are used to defray costs associated with special events held in connection with the opening of new exhibitions. In FY 1980, funds also were provided from the Institution's Collections Acquisition, Scholarly Studies and Education Program (\$6,000) for a conference on museum records management. During this conference, recommended guidelines were formulated and developed for subsequent publication on the care and preservation of records for museums. No proposals are pending for funding from this Program in FY 1981 and FY 1982.

Restricted Funds - These funds are derived from gifts, foundation grants, contributions, fund raising activities (such as the Archives' annual auctions and travel tours) and a membership program. These funds are used for the general support of the programs of the Archives, including the support of nine full-time positions and two part-time. In addition, small grants are received from private foundations and state governments to assist in oral history projects and other designated programs. For example, the Archives is completing the second year of a two year oral history project in California which has received both state and foundation support (\$17,000). In addition for FY 1981, a state collecting project in Texas expects to continue receiving foundation and corporate support (estimated expenditures \$80,000 in FY 1981). Continued financial support is expected in FY 1982 in the areas of developing state collections and oral history projects.

COOPER-HEWITT MUSEUM

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	21	629	10	329	11	636	4	482	1	55
FY 1981 Base	22	707	10	368	9	814	5	527	--	25
FY 1982 Estimate	23	794	10	366	9	858	5	567	--	25

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	22	1	23
Number of Other Positions.....	0	2	2
11 Personnel Compensation.....	422	60	482
12 Personnel Benefits.....	41	5	46
21 Travel & Trans. of Persons.....	4		4
22 Transportation of Things.....	2		2
23 Rent, Comm. & Utilities.....	12	2	14
24 Printing and Reproduction.....	11	2	13
25 Other Services.....	72	7	79
26 Supplies and Materials.....	84	7	91
31 Equipment.....	59	4	63
Total	707	87	794

Analysis of Increase

Necessary Pay.....	20
Inflation.....	22
Program Funds.....	45

ABSTRACT - The Cooper-Hewitt Museum opened to the public in October 1976 in the Carnegie Mansion in New York City. The Museum is one of the world's great repositories of design and decorative art materials with collections including textiles, drawings, prints, wallpapers, furniture, jewelry, glass, ceramics, silver, metalwork and other decorative objects. For FY 1982, an increase of \$45,000 is requested consisting of one position for a graphics designer, who would be responsible for the design and production of exhibition and other printed materials for the Museum, and for temporary personnel on an "as needed" basis to provide additional production and research support for exhibitions. Funds of \$20,000 are required for necessary pay for existing staff and an amount of \$22,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Cooper-Hewitt Museum, previously known as the Cooper Union Museum of the Arts of Decoration, was founded in 1896. Threatened with closure and discontinuance due to lack of space and funding at Cooper Union, it was transferred to the Smithsonian Institution in 1967. The Carnegie property, consisting of the mansion, townhouse and garden, was given to the Institution as a home for the Museum in 1972. Following the renovation of the mansion, the Museum opened to the public in October 1976.

One of the world's great repositories of design and decorative arts materials, the Cooper-Hewitt is the only museum in the United States devoted exclusively to the study of historical and contemporary design. The collections of the Museum span over 3,000 years and represent cultures and countries the world over. Supporting study of the collections is a major library containing approximately 35,000 volumes on design, ornament and architecture.

In October of 1980, the Cooper-Hewitt celebrated the fourth anniversary of its rebirth as the Smithsonian Institution's national museum of design. In the years since the Museum reopened, it has presented over 65 exhibitions (not counting the 23 satellite showings in other museums that were part of the opening activities). The following exhibitions were presented this past year: "Smithsonian," "A Century of Ceramics," "Spectacular Spaces," "Close Observation: Frederic Church," "Oceanliners," "Catskills Resorts," "Hair," and "Wallpaper." The Smithsonian Institution Traveling Exhibition Service is presently traveling four Cooper-Hewitt exhibitions: "Subways," "Urban Open Spaces," "Portable Shopping Bags," and "Cross Currents: Neo-classical Drawings."

The Cooper-Hewitt has been honored with numerous awards including many prestigious national ones in such categories as architecture, exhibitions, programs, catalogues and individual staff honors. This past year, the Carnegie Mansion received a designation as a national historic landmark, and the Municipal Art Society Award was presented to the Cooper-Hewitt for its role in initiating Museum Mile in New York.

The Museum continued its special series of publications on various aspects of the collections. Catalogues were published in FY 1980 on the collections of glass, tiles, sword guards, furniture and wallpaper. Additional catalogues and posters were published in conjunction with the following exhibitions: "Oceanliners," "Hair," "Spectacular Spaces," and "Close Observation: Frederic Church." The recent awards for Museum publications included the Metropolitan Printers Award for the "Glass" and "Urban Open Spaces" catalogues. "Urban Open Spaces," which is being reprinted as a book, has been chosen for the "Designer's Choice" issue of Industrial Design Magazine and was included in the Fourth Annual Urban Design Awards given by Urban Design Newsletter. This year, the Museum produced Oriental Rugs, Porcelain, Needlework, Furniture I, Clocks, Glass, and Prints, the first seven volumes of the twelve part series, The Smithsonian Illustrated Library of Antiques. The Newsletter continued to inform the public of upcoming events, exhibitions, and programs as well as the history and development of the Museum.

During FY 1980 and continuing in FY 1981, the Museum offered a full complement of workshops, lectures, seminars, tours and special classes on decorative arts and design. Over 5,000 students attended programs in FY 1980. Free performing arts events were held in the Carnegie garden during the summer months. The Museum also has initiated programs for the disabled and instruction has been given in simple sign language to the staff in order that they might communicate with hearing impaired visitors.

In addition to the exhibition, publication, and education programs, the Museum continues to make substantial efforts toward organizing and taking inventory of the collections, constructing proper study and storage facilities in the Mansion, and providing for the security and conservation of an immense number and variety of objects. In FY 1980, the Museum refined its standard registrarial records and conversion to a computer based registration operation continues. During the past year, the Museum accepted into the collection 1,849 works of art. Incoming loans to the Museum comprised 1,917 items from 78 museums and private lenders, and outgoing loans, some 903 objects to 77 museums and other institutions.

Installation of the Textile Study/Storage Center on the fourth floor of the Carnegie Mansion was completed in FY 1980. Completion of the Paper Conservation Laboratory was accomplished by hiring, in FY 1981, a paper conservator to supervise this activity. The exterior cleaning of the Mansion was completed in FY 1980, as was the painting of the windows and the repointing of the masonry. In FY 1981, the walkways will be repaired and the wrought iron fence surrounding the building will be painted.

Following the appropriation of special inventory funds in FY 1979 for the planning and implementation of the inventory of the Cooper-Hewitt collections, the staff worked with the Smithsonian Registrar and the Office of Computer Services to plan inventory systems and procedures. The inventory is still in progress, but by the end of 1980, more than 87,000 objects had been inventoried and some 60,000 records entered into the computer. An amount of \$50,000 appropriated to the Museum for collections management purposes in FY 1980 along with Collections Management/Inventory Program funds provided to the Institution should enable the inventory of the entire collection to be completed by FY 1983.

The appropriation request for the Collections Management/Inventory Program, an explanation of this program and a comprehensive funding summary appear in the Special Programs section on A-170.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, one position and \$45,000 are requested for a graphics designer and for temporary personnel in support of the Museum's active exhibitions program.

The Cooper-Hewitt Museum, which is the nation's only museum devoted exclusively to the study of design, has no graphics designer on the staff. Given the fact that the Museum produces on the average some 16 exhibitions a year along with related printed materials and catalogues, the lack of a staff designer presents at the very least a difficult and expensive problem. At present, if such services are to be acquired, an outside designer must be contracted for each job. If enough money cannot be raised to support a given exhibition, no designer can be hired, and consequently, labels for the show get done on a typewriter and no catalogue, poster, and other printed materials are produced. At best, there is considerable inconsistency from show to show and season to season; at worst, a presentation job which is half done and less than professional. It is in the nature of things, extremely important for the Cooper-Hewitt Museum to establish a strong and consistent design image. This is virtually impossible on an ad-hoc, as-can-be-funded basis. A position and \$25,000 are requested to hire a permanent graphics designer who will help the Museum achieve its goal as well as solve a number of exhibits and museum design problems.

In addition, an amount of \$20,000 is sought for temporary, as-needed, production personnel to support the Museum's active exhibition program. With a smaller museum which can only house three to four exhibitions at a time, it is critical to change exhibitions rapidly in order not to have large areas of the

museum closed down for long periods of time. At present, the exhibits department consists of only one exhibits designer, one coordinator and one researcher. When it comes time to dismantle and reinstall exhibitions, there simply are not enough hands to move efficiently hundreds of objects of great variety along with numerous cases, platforms and frames. The ability to hire temporary, basic production personnel at peak periods will help the exhibits department accomplish the myriad of duties required at low cost and in the most efficient manner while allowing the Museum needed flexibility.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources including museum shop sales, product development, membership and admission fees, and from allotments. The annual allotment supports ten positions including those of the director, assistant director, administrative assistant, business manager, and members of the curatorial and registrarial staff. These funds also are used to defray expenses associated with the openings of new exhibitions and to support various educational programs of the Museum.

Restricted Funds - These funds are provided from gifts, foundation grants, bequests, donations, endowments, and grants from individuals, organizations or corporations for specific purposes. Generally, these funds provide support for specific Cooper-Hewitt exhibitions or programs. Some of the exhibitions supported by restricted funds and planned for FY 1982 include: "Hawaii," "Fantastic Architecture," "Scandinavian Decorative Arts," "Gilt Bronze" and "English Majolica."

Federal Grants and Contracts - These funds are provided by various government agencies and departments for specific exhibition support. For example in FY 1981 and FY 1982, the Department of Transportation is providing \$10,000 for a study to culminate in a comprehensive exhibition entitled, "Urban Mobility: Design in Transit."

MUSEUM OF AFRICAN ART

(Dollars in thousands)

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	23	543	--	7	5	190	6	134	--	35
FY 1981 Base	24	728	--	14	5	243	6	194	--	--
FY 1982 Estimate	25	842	--	11	5	275	6	212	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	24	1	25
Number of Other Positions.....	4	0	4
11 Personnel Compensation.....	496	37	533
12 Personnel Benefits.....	48	3	51
21 Travel & Trans. of Persons.....	12	3	15
22 Transportation of Things.....	9	1	10
23 Rent, Comm. & Utilities.....	2		2
24 Printing and Reproduction.....	37	42	79
25 Other Services.....	39	21	60
26 Supplies and Materials.....	37	4	41
31 Equipment.....	18	3	21
Acquisitions for collections...	30		30
Total	728	114	842

Analysis of Increase

Necessary Pay.....	13
Inflation.....	16
Program Funds.....	85

ABSTRACT - Following the signing of Public Law 95-414 by the President authorizing the Museum of African Art to become part of the Smithsonian Institution and the subsequent supplemental appropriation passed in FY 1979, the Museum of African Art, established as a private museum in 1964, officially became part of the Smithsonian in August 1979. Its purpose is to foster public understanding and appreciation for African art, which has only belatedly been recognized as one of the great art traditions of the world. For FY 1982, one position and \$85,000 are requested, consisting of: one position and \$45,000 for salary and support funds for a research curator to produce scholarly studies on the Museum's collection and assist with the Museum's acquisition, exhibition and

education programs; and \$40,000 to produce catalogues and checklists for exhibitions and related publications. An amount of \$13,000 is required for necessary pay for existing staff and an amount of \$16,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Museum of African Art collects, cares for, studies, and displays traditional African art, conducts extensive public education programs, and works closely with education officials at all levels in the metropolitan Washington area and throughout the country.

The Museum, located on Capitol Hill, occupies a row of nine townhouses, two of which comprise the first Washington residence of Frederick Douglass. The complex contains 12 public galleries in which approximately 500 objects are displayed; a storage area of the Museum's permanent collection of approximately 8,500 objects representing all the major regions of Africa; the Eliot Elisofon archives numbering some 100,000 slides, photographs, and film sequences; a reference library of approximately 7,000 titles; and an auditorium with a seating capacity of 150; a graphics studio; education and administrative offices; and the Museum's sales shop, "Boutique Africa," specializing in contemporary African craft objects.

More than 1.5 million people have visited the Museum's galleries and attended its various extension programs since it opened in 1964, and some 18,000 groups of people, more than half of whom have been school children from the District of Columbia, have participated in the Museum's special orientation sessions on African culture and values, conducted by African members of the Museum's staff.

The Museum's ongoing public education program consists of: daily museum orientation sessions; regularly occurring African craft workshops for children and adults; arts and crafts demonstrations by artists-in-residence conducted in cooperation with the Cultural Exchange Program of the International Communications Agency; special series of lectures, symposia, films and performances such as the year-long series on the African diaspora; African heritage programs in the public schools with staff members working directly with teachers and pupils to infuse an understanding of African values and culture into the curriculum; and extension programs and displays for universities, community organizations, and conferences. The Museum's Department of Academic Studies (higher education) conducts credit and noncredit courses each semester (30 of which have been conducted thus far) in cooperation with area universities. The library, photographic archives and slide collections also are made available to scholars and advanced students of African art and culture. Members of that Department, as well as curatorial staff members, provide consultation services to other museums and to universities wishing to develop programs in African art studies. Traveling exhibitions prepared by the Museum are circulated to small colleges or museums either under its own auspices or in cooperation with the Smithsonian Institution Traveling Exhibition Service.

During 1980, the Museum's exhibition schedule included: "Useful Arts of Kenya," "Puppets From West Africa," "Appliqued Cloths of the Dahomey Kingdom," "The Image of the Black in Western Art," and "Art of Mali and Guinea," the first part of a continuing series of exhibitions based on selected works from the permanent collections. In FY 1981, the Museum opened the second: "Art of Nigeria," and the third: "Art of Angola, Cameroon and Gabon," and the fourth: "Textiles and Utilitarian Objects," parts of this series, featuring several major new acquisitions. Also in 1981, the Museum cosponsored with the Corcoran Gallery of Art a major exhibition entitled "Treasures of Ancient Nigeria: Legacy of 2,000 Years." In connection with this exhibition, the programming and

education staff of the Museum of African Art developed and presented a broad range of educational and entertainment programs. In addition during 1981, the Museum's exhibitions schedule included: "African Costumes and Jewelry" and, in conjunction with a nationwide symposium entitled "Egypt Today," an exhibition of traditional Egyptian costumes and jewelry.

For FY 1982, the Museum is planning two major exhibitions: "Contemporary Art of Haiti" and "African and Utilitarian Objects." In addition there will be a series of small exhibitions featuring the traditional sculpture of particular regions from the Museum's own collections and from selected private collections.

EXPLANATION OF PROGRAM INCREASE - With only one trained curator on its staff of 24 Federal employees, the Museum of African Art is unable to take full advantage of the great wealth of its collections. Day-to-day tasks relating to loans, changing exhibition schedules, care of the objects and record keeping and administrative duties effectively consume the time of the existing curator. As a result, the more thoughtful aspect of curatorial work including research, the seeking out of new acquisitions, more comprehensive exhibit planning and publication efforts have received a lower priority. To redress this situation, one position and \$45,000 are requested for salary and support funds for a research curator who could exploit these waiting opportunities. Happily, in response to a nationwide search, we have found that one of the best scholars in African art (who also has extensive museum experience) would be willing to join the Museum in such a capacity in the fall. If this increase is approved, it would go far toward making the Museum of African Art the professional operation that was contemplated when the Museum was joined with the Smithsonian.

Of comparable importance in reinforcing the scholarly and educational offerings that a national museum such as the Museum of African Art should routinely provide the public is its publication program. Funded at just \$37,000 in the base, this central aspect of the Museum's overall effort is in need of permanently increased support. In addition to the critically important practice of publishing an exhibit catalogue with each major show (something the existing budget cannot accommodate), there is a backlog of publishing projects that has been stalled for lack of funds. Among these are a book highlighting the masterpieces in the Museum's own collections; monographs and checklists concerning selected areas of the collections, e.g., applique cloths of the Dahomey Kingdom; and a comprehensive summary of African art in other United States collections, both public and private. The amount of \$40,000 requested for these purposes would do much to help fill this need.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from sales in the museum shop, membership contributions, tuition rebates from cooperating colleges and universities whose students participate in the Museum's higher education classes, and allotments. These funds are used to support the cost of certain museum publications, to purchase inexpensive works of art, for the opening of new exhibitions, and to defray travel costs associated with meetings of the Museum's Board of Trustees. They also support expenses associated with the museum shop.

Restricted Funds - Funds provided here are in the form of foundation grants, which specify the use of the donation, and of gifts provided by individuals, organizations and corporations for specific purposes. Generally, these funds provide support for a particular project or exhibit. For example, in FY 1980 a grant received from the ARCO Corporation (\$10,000) is for research on the influence of African art on modern art. The majority of the restricted

funds projected for FY 1981 and FY 1982 will be used to provide support for program enrichment including collections acquisitions, special exhibitions and the development of the Museum's higher education teaching capability.

Federal Grants and Contracts - Two remaining Federal contracts, which were in effect when the Museum was transferred to the Smithsonian, ended early in FY 1980. No additional such funds are anticipated for FY 1981 or FY 1982.

PUBLIC SERVICE ACTIVITY

Summary and Highlights of Proposed Increases

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	70	2,302	42	6,019	--	152	--	27	--	29
FY 1981 Base	72	2,605	43	6,397	--	--	1	22	--	25
FY 1982 Estimate	73	2,786	48	5,659	--	--	1	25	--	15

*FTP = Full-time permanent positions

Analysis of Increase (Federal Request)

Necessary Pay.....37
Inflation.....36
Program Funds.....108

The FY 1981 base for the Public Service Activity totals 72 positions and \$2,605,000. A program increase of one position and \$108,000 is requested for FY 1982. Necessary pay of \$37,000 is required for existing staff and an amount of \$36,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

Program increases sought for FY 1982 are designated mainly for public service and research purposes. For the Visitors Information and Associates Reception Center, an additional amount of \$28,000 is requested for part-time positions to be used to provide further assistance to the public at information desks during the summer months when heaviest visitor traffic is experienced as well as to develop resource materials and other information services. The Division of Performing Arts is requesting \$36,000 for two researchers who will undertake studies of jazz and studies of American popular entertainment. The balance of the Public Service request, one position and \$44,000 for the Smithsonian Institution Press, will provide additional clerical assistance and associated equipment (\$20,000) and help offset the higher costs associated with the printing of the Smithsonian annual report to the Regents and to the Congress (\$24,000).

The sources and uses of nonappropriated Trust funds are explained individually for each line-item in the Public Service Activity that receives nonappropriated Trust funds.

OFFICE OF THE ASSISTANT SECRETARY FOR PUBLIC SERVICE

(Dollars in thousands)

Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
	General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	9	262	16	576	--	37	--	1	--	--
FY 1981 Base	10	308	16	721	--	--	--	--	--	--
FY 1982 Estimate	10	342	16	746	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	10	0	10
Number of Other Positions.....	0	5	5
11 Personnel Compensation.....	271	24	295
12 Personnel Benefits.....	26	3	29
21 Travel & Trans. of Persons.....	2		2
24 Printing and Reproduction.....		4	4
26 Supplies and Materials.....	3	2	5
31 Equipment.....	6	1	7
Total	308	34	342

Analysis of Increase

Necessary Pay.....	5
Inflation.....	1
Program Funds.....	28

ABSTRACT - The Office of the Assistant Secretary for Public Service guides and supports the public service units in the development of programs to advance the Institution's objectives in education, publication, information and performing arts, and keeps the Secretary informed and advised concerning the public service programs and activities. The Office of Telecommunications and the Visitors Information and Associates Reception Center also are included under this heading. For FY 1982, an increase of \$28,000 is requested to support the important public functions of the Visitors Information and Associates Reception Center. An amount of \$5,000 is required for necessary pay for existing staff and an amount of \$1,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - I. Immediate Office: With a base of six positions and \$221,000, the primary functions of the Office of Public Service are to stimulate, coordinate and supervise the steadily increasing activities of the Smithsonian's educational and public service components. These include the Anacostia

Neighborhood Museum, the Division of Performing Arts, the Office of Elementary and Secondary Education, and the Office of the Smithsonian Symposia and Seminars. Other activities for which this Office is responsible are the dissemination of Smithsonian research and interests through the publications programs of the Smithsonian Institution Press, the Smithsonian magazine, the Smithsonian Exposition Books and the International Exchange Service; the development and coordination of a program using the services of volunteers to provide information to the public (in person, by phone and by mail) and the administration of a placement service of volunteer assistants throughout the Institution by the Visitors Information and Associates Reception Center; and the development and production of audiovisual materials.

II. Office of Telecommunications: A base of two positions and \$52,000 provides support for the Office of Telecommunications. The primary objectives of this Office are to assist in determining Smithsonian policy and objectives for a telecommunications program, which serves as one of the Institution's major means of education and enlightenment, and to develop and produce audiovisual materials for distribution to educational institutions, civic organizations, and public and commercial radio and television outlets. Two of the most popular presentations of this Office are the weekly program "Radio Smithsonian" which publicizes and highlights across the Nation current activities, special events and presentations of the Institution and "Smithsonian Galaxy," a series of two and one half minute radio spots which are produced eight times a month and feature different aspects of Smithsonian activity. "Smithsonian Galaxy" is distributed to two hundred radio stations and has a listening audience of some 16 million people. In addition to informing the public of Smithsonian events, these programs stimulate interest in the National Collections.

III. Visitors Information and Associates Reception Center: With a base of \$35,000 and two positions, the Center is the Institution's public service bureau providing a wide variety of central information and assistance services to the public through three programs: the Seven Day Information Service; the Staff/Volunteer Service; and the Public Inquiry Mail Service.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of \$28,000 is requested to fund five part-time positions and to provide additional supplies for the Visitors Information and Associates Reception Center. The additional staff and supplies will be used to handle the increasing workloads in the Center's three program areas: Seven Day Information Service; Staff/Volunteer Service; and the Public Inquiry Mail Service. For the five part-time positions \$22,000 is requested. The Center operates a network of 13 information desks throughout the Institution and provides several million visitors with additional information each year; two part-time program aides will provide additional assistance at the information desks during the summer months when the heaviest visitor traffic is experienced. One part-time program assistant will participate in updating the computerized files for the annual Institution-wide survey of 2,700 volunteers who contribute their time and efforts to the Institution. This computer file has two purposes: to determine awards for outstanding volunteer efforts; and to provide the volunteers with information needed to report to the Internal Revenue Service. In 1980, the Public Inquiry Mail Service researched and prepared written responses to over 70,000 of the 300,000 phone and mail requests for information about Smithsonian programs. This is an increase of 14,000 replies over the previous year; one part-time correspondence clerk will provide assistance in handling the increasing workload. One part-time editorial assistant will assist in writing and reviewing the Center's information resource materials used throughout the museums; the calendar of activities and events, exhibits directory and special events reference. An additional \$6,000 also is requested to cover the additional printing and supply costs for fact sheets, leaflets, and brochures distributed throughout the Institution.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds -

I. Immediate Office: Funds are provided by an allotment for the publications coordinator responsible for developing, carrying out and operating a publishing plan for the Institution and for insuring that manuscripts developed throughout the Smithsonian are reviewed and evaluated in a consistent manner prior to publication.

II. Office of Telecommunications: These funds are provided by allotments and are used to develop educational and informational materials for television, film and radio and are designed to disseminate the results of Smithsonian research and exhibition activities to a variety of audiences. In addition, these funds also are used to produce audiovisual educational films such as the film "A Sense of Discovery" which profiles the National Museum of American Art. This film was recently premiered on public television. An additional film to be produced in FY 1981 is entitled "Dragon of the Trees: The Green Iguana". These funds also support "Radio Smithsonian" a weekly series about the Smithsonian that is broadcast by nearly 70 subscribing stations across the country. Continuing support in FY 1980 has been provided from the Institution's Collections Acquisition, Scholarly Studies and Education Program (\$36,000) to support "Smithsonian Galaxy," a series of short radio features produced and developed in connection with Smithsonian exhibits. This highly popular radio program reaches a national audience of 16 million people in 43 states. Expenditures through this Program have not been recorded for FY 1981. This explains the variance in totals shown between FY 1980, FY 1981 and FY 1982. The Office of Telecommunications can expect to receive and spend funds made available through this Program in FY 1981 and FY 1982.

III. Visitors Information and Associates Reception Center: Funds are provided by an annual allotment and are used to provide various services to the public and associate members of the Institution. These include an Information Volunteer Program, which is responsible for staffing information desks in the Mall museums; the Group Orientation Program, which prepares volunteers to present 30-minute slide lecture orientations to organized groups visiting the Institution; the Castle Docent Program, which trains volunteers to conduct regularly scheduled tours of the original Smithsonian Institution Building; an Independent Volunteer Placement Service, which interviews and assigns volunteers to assist professional staff in specific subject areas; and a Telephone Information Program.

ANACOSTIA NEIGHBORHOOD MUSEUM

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	19	567	1	22	--	17	--	1	--	--
FY 1981 Base	19	734	1	29	--	--	--	--	--	--
FY 1982 Estimate	19	756	1	32	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	19	0	19
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	499	8	507
12 Personnel Benefits.....	42	1	43
21 Travel & Trans. of Persons.....	3		3
22 Transportation of Things.....	1		1
23 Rent, Comm. & Utilities.....	23		23
24 Printing and Reproduction.....	30	2	32
25 Other Services.....	60	4	64
26 Supplies and Materials.....	70	7	77
31 Equipment.....	6		6
Total	734	22	756

Analysis of Increase

Necessary Pay.....	9
Inflation.....	13
Program Funds.....	0

ABSTRACT - The Anacostia Neighborhood Museum (ANM) was founded in the Anacostia section of Washington, D.C. in 1967 to provide the opportunity and the resources for a continuing museum experience for community groups and individuals. Carefully researched and produced exhibits, supported by educational and interpretative programs, have responded to the needs and interests of this and adjoining communities. Through its traveling exhibits and publications, the Anacostia Neighborhood Museum also has responded to a national need and today is recognized as an increasingly important source of Black history and culture. No program increase is requested for FY 1982. Necessary pay in the amount of \$9,000 is required for existing staff and an amount of \$13,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Anacostia Neighborhood Museum has brought the culturally enriching museum experience to many who otherwise might never have had the opportunity to participate in such an experience. In the process, the Museum has gained a national reputation as a center for ethnic studies through its intern program, Museum and traveling exhibitions, research efforts and pioneering education projects.

Currently, the Museum's focus is centered on its exhibits and on accompanying publications that both support and extend the life of exhibits, thereby maximizing the resources expended in the areas of research and exhibit design and production.

Anacostia concentrates on producing major exhibitions, utilizing the resources of other Smithsonian museums, other repositories (local, private and national) as well as state and university supported archives and museums. "Anna J. Cooper: A Voice from the South," installed in FY 1980, is an example of an exhibit produced which consists of three-dimensional objects, artifacts and primary source documents. Research leading to the next two important exhibitions, "The Harlem Renaissance" and "Antiquity: Africa in World Culture" is underway.

Anacostia proposes to develop and produce more traveling exhibitions for circulation by the Smithsonian Institution Traveling Exhibition Service which presently circulates Anacostia's "Blacks in the Westward Movement," "The Frederick Douglass Years," and "Black Women: Achievements Against the Odds." Traveling versions will be of varying sizes and configurations suitable for classroom use and as hanging panel shows appropriate for libraries and smaller museums. A traveling version of "Out of Africa" is in production and in FY 1981, a traveling exhibit will be produced from "Anna J. Cooper: A Voice from the South." Anacostia's resources and research capabilities have provided support for interpretative programs at national historical sites around the country and for American and urban studies programs in area colleges and universities, as well as for other museum and educational programs.

The education department is continuing to extend its services to schools and the community through teacher workshops and related activities and to reach special audiences through a wider use of the media. A program involving use of a double labeling system, one for the general viewer and one for the deaf that uses a unique syntax in structuring sentences and phrases, is being developed for exhibitions to meet the needs of deaf visitors.

Development of a photographic archives and a reference library will provide support for Anacostia's research, exhibit and educational programs as well as for response to requests from other agencies, educational organizations and private citizens.

The Anacostia Neighborhood Museum has met its initial objective to provide the opportunity and resources for a continuing museum experience for individuals who may not otherwise have had such an opportunity. A committee composed of five members who have museum research and university backgrounds recommended to the Secretary that the Museum increase its involvement in joint research, education, collection, and curation programs with other Smithsonian organizations, with non-Smithsonian museums, the academic community, the Library of Congress, archival repositories, and other institutions. The Committee also recommended that the Anacostia Neighborhood Museum continue to concentrate on developing innovative exhibits, including traveling versions of these exhibits, which will link the Museum's endeavors with those based on the Mall and around the country.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are provided by an annual allotment to cover the salary and benefits costs of an exhibits specialist. Additional funds are provided from exhibit rentals and the sale of catalogues and are used to purchase supplies and materials for the various museum programs and for community activities. Funds also were provided in FY 1980 from the Institution's Collections Acquisition, Scholarly Studies and Education Program (\$16,000) to support the Museum's Educational Outreach Program.

Restricted Funds - Funds provided here are in the form of gifts from individuals, organizations and corporations which are designated for general support of the programs of the Museum.

INTERNATIONAL EXCHANGE SERVICE

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	5	323	--	--	--	--	--	--	--	--
FY 1981 Base	5	235	--	--	--	--	--	--	--	--
FY 1982 Estimate	5	247	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	5	0	5
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	78	2	80
12 Personnel Benefits.....	8		8
22 Transportation of Things.....	15	2	17
25 Other Services.....	130	8	138
26 Supplies and Materials.....	2		2
31 Equipment.....	2		2
Total	235	12	247

Analysis of Increase

Necessary Pay.....	2
Inflation.....	10
Program Funds.....	0

ABSTRACT - Through the International Exchange Service (IES), public and private institutions in the United States exchange publications with organizations in other countries. No program increase is requested for FY 1982. Necessary pay in the amount of \$2,000 is required for existing staff and an amount of \$10,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - In 1849, the Smithsonian Institution established a system for the exchange of its literary, scientific and cultural publications with learned societies of other countries. This program was so successful that in 1851 it was expanded to accommodate the exchange of publications of other American organizations. The International Exchange Service responsibilities were formalized when the Brussels Conventions of 1875 - 1886 were adopted by the United States in 1889. The Smithsonian Institution became the official exchange bureau

in the United States for the international exchange of literary, scientific and cultural publications. At the same time, International Exchange Service assumed responsibility for the exchange of United States government publications as a service for the Library of Congress.

In FY 1977, the Exchange transferred the sending of the weekly issues of the U.S. Patent specifications to the Department of Commerce. Early in FY 1978, the Smithsonian and the Government Printing Office (GPO) concluded an agreement under which the Government Printing Office assumed responsibility for the international exchange of other government documents on a reimbursable basis. This reimbursable agreement with the Government Printing Office was renewed in FY 1981. The permanent transfer of this responsibility requires an amendment to an existing statute. The necessary legislation was introduced in the 96th Congress but not acted upon. Legislation will be reintroduced in the 97th Congress and, if enacted, this transfer is expected to result in a more efficient operation, as the Government Printing Office is better staffed and equipped to meet the particular needs of the Library of Congress. It is also expected that enactment of the legislation will be followed by a one-time permanent base transfer of funds from the Smithsonian to the Government Printing Office.

Based on the positive results of a survey of nearly 200 academic institutions to determine the need for and utility of exchange services for scientific and literary publications, the International Exchange Service will continue to provide these services.

DIVISION OF PERFORMING ARTS

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	9	331	19	3,542	--	96	--	--	--	29
FY 1981 Base	10	413	19	4,168	--	--	1	22	--	25
FY 1982 Estimate	10	462	23	3,800	--	--	1	25	--	15

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	10	0	10
Number of Other Positions.....	1	2	3
11 Personnel Compensation.....	269	39	308
12 Personnel Benefits.....	27	3	30
21 Travel & Trans. of Persons.....	9		9
23 Rent, Comm. & Utilities.....	2		2
24 Printing and Reproduction.....	8	1	9
25 Other Services.....	83	4	87
26 Supplies and Materials.....	10	2	12
31 Equipment.....	5		5
Total	413	49	462

Analysis of Increase

Necessary Pay.....	6
Inflation.....	7
Program Funds.....	36

ABSTRACT - The Division of Performing Arts (DPA) produces performances, special events, celebrations and colloquia, and conferences which bring additional life and meaning to the collections and exhibits of the various Smithsonian museums and galleries. Particular emphasis in performance programs is focused on American esthetic traditions and the use of historic instruments in the collections of the National Museum of American History. The programs of the Division of Performing Arts are made available to the public through publications, through the Smithsonian collection of recordings and by means of tours by resident performing ensembles.

For FY 1982, an increase of \$36,000 is requested to undertake studies of jazz and American popular entertainment. Necessary pay in the amount of \$6,000 is required for existing staff and an amount of \$7,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Division plans and produces live performances throughout the Smithsonian Institution. It produces recordings, catalogues, exhibits and conferences, conducts research and serves as the focal point within the Institution for diverse studies of the performing arts. The various segments within the Division--Jazz Program, Discovery Theater, Educational Programs, Museum Programs, and Black American Culture Program--work together in performances and recordings which include jazz, country/western, blues, gospel, chamber music, spirituals and performances on historic instruments. Activities are organized in order to accumulate learning experiences through critical reaction, participant and audience contribution, and to provide educational benefit far beyond any single concert or writing. In the recent past, the Division of Performing Arts has developed numerous highly acclaimed programs which contribute new knowledge about the history of our culture. The Black American Culture Program organized a conference commemorating the 20th anniversary of the Greensboro, North Carolina sit-ins. This event brought together community leaders, song leaders and some of the actual participants of the sit-ins. The conference was supplemented by an exhibit of objects and photographs, concerts of songs which grew out of the movement, a catalogue and a recording. In the year since the recording was published, more than 20,000 copies have been distributed.

The Smithsonian Jazz Repertory Ensemble which consists of various musicians from around the country and is the only group currently reconstructing music and performances of historic importance, continued to perform in Washington, D.C. and has recorded music of Jelly Roll Morton, James P. Johnson, Fats Waller and Duke Ellington. In 1981, the group will tour 11 other American cities as well as continue to revive and perform music which had been previously lost to the public. Work continues also on a book of music scores notated from recorded performances included in the recorded Smithsonian Collection of Classic Jazz. These scores will enable educators to teach jazz history through use of printed materials.

The collections of Smithsonian museums were brought vividly to life by the Smithsonian Chamber Players, performing on the priceless period instruments housed in the National Museum of American History. The Chamber Players also have contributed new works to the collection of recordings which were received with great critical acclaim, prompting the American Record Guide to state, "...virtually at a single stroke the Smithsonian has established itself as a major force in the field of Baroque Recordings." More than 40,000 sets of the initial recordings have been distributed and of equal importance, the sounds of original instruments have been documented for future generations of listeners and scholars. Other programs of chamber music enlivened the 19th century environment and collections of the Renwick Gallery. The 20th Century Consort, resident ensemble at the Hirshhorn Museum and Sculpture Garden, was hailed as a valuable national musical resource by composers and critics for its performances of contemporary music. The Consort has also contributed to the collection of recordings, performing works by more than 12 of America's outstanding composers, including three Pulitzer Prize winners, George Crumb, Mario Davidovsky and Joseph Schwanter.

In FY 1980, two National Holiday Celebrations again were presented to the largest public audience for any Smithsonian special event. These celebrations taught visitors the history and traditional ways which Americans have evolved to mark the Hanukkah and Christmas Season. The July 4th celebration emanated from John Adams' hope: "I am apt to believe that it will be celebrated by succeeding generations as the great anniversary festival." A third celebration, observing the advent of spring, focused on popular entertainment and variety acts--circus, carnival, vaudeville and minstrel shows. All of these celebrations served as interpretive vehicles for the collections and exhibits of the National Museum of American History.

The American Musical Theater is widely acknowledged as our nation's major contribution to world theater. The development of this special and particular art form was traced with performances of classic vaudeville shows, the work of Jerome Kern and an exploration of the period 1900-1920. These performances were documented on video tape and complemented by publication of archival, original cast recordings of Victor Herbert conducting his own music, Arthur Schwartz and Howard Dietz's "The Band Wagon," George and Ira Gershwin's "Funny Face" and Cole Porter's "Let's Face It," "Red, Hot and Blue" and "Leave It To Me."

Research work which led to these performances and publications has been used by National Public Radio and Public Television, in published reference works, in instructional courses at all educational levels and by critics in virtually all media dealing with the arts. Division of Performing Arts' materials also have provided impetus for further research and documentation which may result in proposals from independent scholars and specialists approved or pending at the National Endowment for the Arts and Humanities. The research done by the staff is reflected regularly in performances, recordings, writings and lectures. A continuing and noteworthy educational publication of the Division highlights "Notes on the Arts."

More than 200,000 individuals each year attend Division performances and recording sessions. In addition, visitors to the Smithsonian Institution often observe exhibitions made more exciting and communicative by the musical accompaniment of performances. The Division's Discovery Theater introduces children to the arts through theater performances. In 1981, special performances brought together disabled children with renowned performers who were themselves disabled. The events were given in an effort to make all children aware that physical handicaps are no barrier to participation and enjoyment of the performing arts.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of \$36,000 is requested to hire temporary research assistants to undertake studies of American popular entertainment and jazz. Studies in the history of American popular entertainment will focus on circuses and vaudeville shows as well as other forms of entertainment aimed at broad audiences. These popular entertainment forms have been intrinsic to the development of American society and encompass all the performing arts. Popular entertainment spread language and culture across America; spurred creative innovation in performance, technology and business enterprise; and entertained millions of persons every day. Yet, this field is little understood in respect to its accomplishments, purposes, implications, styles and contributions to the vitality and fabric of the nation. The study will assess those factors and compile information about popular entertainment for performance, publication, recording and bibliographical and collection building. The results of the research will be reflected in performances, recordings, writings and lectures. To conduct this research, an amount of \$18,000 for a temporary research position is requested.

The Division of Performing Arts established a Jazz Program in 1972 and has become a major repository of information about this pure American art form. Two regular series of concerts are produced each year, presenting both established jazz masters and new emerging artists. The Division also has co-sponsored, with the Music Critics' Association, training institutes for critics. The "Smithsonian Collection of Classic Jazz" continues to be one of the most popular recordings ever published and is used as text and required listening by music departments and conservatories across the country. To assist in the development of score books for educational performances and study, for the development of text books and for additional research into performing styles and jazz history, an additional amount of \$18,000 for a temporary research position is requested.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are derived primarily from the retail sale of publications and recordings, such as the recordings of the "Smithsonian Collection of Classic Jazz," "Johann Sebastian Bach, Six Partitas for Solo Harpsichord," and the forthcoming "Smithsonian Collection of Classic Country and Western," and from ticket sales for performance events. These funds are used to support 19 staff positions and the work of the Division in producing new recordings, publications, concerts, and for the distribution of educational material.

Restricted Funds - Funds provided here are in the form of gifts and foundation grants from individuals, organizations and corporations for specific purposes. The amounts for FY 1981 and FY 1982 represent estimates as of this date.

Federal Grants and Contracts - In the past, the Division has received funding from the National Endowment for the Arts for an Oral History project, but such funds are no longer available. Funds are being sought from the Department of Education for a program in support of the International Year For Disabled Persons. The funds would be used to make the performing arts more enjoyable and accessible to disabled persons as part of the overall learning process (estimated expenditures of \$25,000 in FY 1981 and \$15,000 in FY 1982).

SMITHSONIAN INSTITUTION PRESS

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	28	819	6	1,879	--	2	--	25	--	--
FY 1981 Base	28	915	7	1,479	--	--	--	--	--	--
FY 1982 Estimate	29	979	8	1,081	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	28	1	29
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	752	24	776
12 Personnel Benefits.....	74	2	76
21 Travel & Trans. of Persons.....	1		1
23 Rent, Comm. & Utilities.....	6	1	7
24 Printing and Reproduction.....	70	27	97
25 Other Services.....	7	1	8
26 Supplies and Materials.....	3		3
31 Equipment.....	2	9	11
Total	915	64	979

Analysis of Increase

Necessary Pay.....	15
Inflation.....	5
Program Funds.....	44

ABSTRACT - The Smithsonian Institution Press is responsible for the editing, design, production, and distribution of printed materials prepared by historians, scientists and curators. Such materials include research monographs, technical and scientific series, exhibit catalogues for Smithsonian museums, education pamphlets and informational leaflets. The Press also acts as Smithsonian agent with the United States Government Printing Office in contracting for printing services and procuring of needed Federal printed materials and publications. For FY 1982, a program increase of one position and \$44,000 is requested, consisting of: one position and \$12,000 for additional clerical support and \$8,000 for associated equipment; and, \$24,000 to help offset cost increases associated with printing the Smithsonian annual report to the Regents and to the Congress. Necessary pay of \$15,000 is required for existing staff and an amount of \$5,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The publication activity of the Press is a fundamental extension of the Smithsonian's basic research laboratories. The scientific, technological and historical series monographs published by the Press make the results of research conducted by Smithsonian curators and staff experts available to major libraries, museums, scientific institutions, and interested members of the public throughout the United States and abroad. In addition to publishing research findings, the Press edits and designs exhibit catalogues, educational pamphlets and informational leaflets which serve the millions of visitors to the Smithsonian and the extension programs conducted all over the nation.

After review of a manuscript for adequacy of preparation, the Press staff designs the publication's format, conducts all phases of the editing and guides the manuscript through the composition, printing and binding stages--through the Government Printing Office in the case of Federally funded publications, and with commercial establishments for those financed by other sources. The distribution section of the Press is responsible for receiving, warehousing and shipping the finished publications according to selected mailing lists.

The Press also edits, designs and produces Smithsonian Year, the Institution's annual report to the Regents and to the Congress, as well as procures and distributes within the Institution a variety of necessary manuals, reports and directories, including copies of Congressional materials and reports from government agencies.

The Smithsonian Institution Press was the recipient of several awards in FY 1980: an award by the Aviation/Space Writers Association for Apollo: Ten Years Since Tranquility Base; and an award for design by the American Institute of Graphic Artists for the Catalogue of the Hans Syz Collection.

In FY 1980, some of the Press' publications were Material Culture of the Numa: The John Wesley Powell Collection, 1867 - 1880; Cutting a Fashionable Fit: Dressmakers' Drafting Systems in the United States; and High Technology on Earth: Studies in Using Aerospace Systems and Methods.

Publishing plans for FY 1982 will be determined primarily by the Press' client bureaus and offices and depend on the allocations of funds made available to these bureaus for publishing purposes. The Press anticipates that requests for publications will increase, partly as a result of the addition of new and active museums in the past few years. For example, the Press was responsible for 143 publications in FY 1980, of which 115 were general publications and 28 were scientific technical monographs. This represents a 28 percent increase over FY 1979.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of one position and \$44,000 is requested to provide additional clerical assistance and purchase associated equipment and to help offset cost increases associated with the printing of Smithsonian Year.

As the number of Press publications increases, the correspondence required to coordinate writers, editors, printers, and other publishers also increases. There also are more manuscript and production schedules to maintain with the growing number of publication requests. Currently, one secretary in the Director's Office has performed all the secretarial and clerical functions. The volume of the workload associated with the increasing publication requests is beyond the capabilities of one person. An additional clerical position and \$12,000 are sought to help perform these functions. An additional amount of \$8,000 will allow the acquisition of word processing equipment which will aid in

making editorial corrections to some manuscripts and correspondence in addition to simplifying and expediting record keeping to such specialized Press functions as production record control, sales recordation, royalty payments, schedule adjustment, and commission sales and payment records.

A further amount of \$24,000 is requested to cover the increased publications cost of Smithsonian Year, the annual report of the Secretary to the Smithsonian Board of Regents and to the Congress. The report contains a representative chronology of Smithsonian activities throughout the year, as well as an in-depth discussion of the progress made in the many and varied Smithsonian bureaus and programs. It also contains information on the Woodrow Wilson International Center for Scholars, the John F. Kennedy Center for the Performing Arts, and the National Gallery of Art. In FY 1980, the circulation list for this publication was reduced considerably; however, the Government Printing Office (GPO) charge for printing this document has risen substantially. Continued higher publication costs are expected to result in a GPO charge of approximately \$75,000 for printing the Smithsonian Year in FY 1982 or an increase of 86 percent over a three year period. For this purpose \$24,000 was requested in FY 1981 but was not allowed. However, this shortage still exists and may increase further due to higher printing costs.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are derived from sales of Trust funded books, royalties and special publishing services. They support seven staff members (eight projected for FY 1982), as well as contractual editing, production, design, promotion, and distribution costs for scholarly and general trade publications which are published in connection with the Institution's research, collections, exhibitions and other programs.

In addition, the Smithsonian Institution Press assists the bureaus, offices and individual staff members in arranging to place manuscripts with appropriate outside publishers. A notable example of this service was the role performed by the Press staff as Smithsonian liaison in negotiations and agreement with the Harry N. Abrams publishing firm to produce the best selling book, The National Air and Space Museum, and forthcoming books including The National Museum of American History and The National Museum of Natural History. The Press also acts as distributor in the United States of books produced by overseas institutions which Smithsonian staff considers to be important additions to the literature on subjects of traditional Smithsonian research interest. The Smithsonian Institution Press has recently accepted on consignment books by the British Museum (Natural History), British Museum Publications Ltd., The Israel Academy of the Sciences and Humanities, and Heinemann Educational Books, Ltd. of Auckland, New Zealand.

The projected decline in expenditures between FY 1980 and FY 1982 mainly results from the marketing to the Smithsonian National Associates of two major books: The National Air and Space Museum (1979 and 1980) and The Smithsonian Comic Book (1981).

Restricted Funds - Funds provided here are in the form of grants from organizations and foundations which specify the use of the grant. Generally, these funds are used to supplement the publishing costs of specific scholarly works. An example of this is the grant received in FY 1980 from the Kress Foundation to supplement the publishing costs of Herbert Friedmann's important literary work entitled A Bestiary of St. Jerome: Animal Symbolism in European Religious Art.

MUSEUM PROGRAMS ACTIVITY

Summary and Highlights of Proposed Increases

(Dollars in thousands)

			NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
Fiscal Year	FEDERAL FUNDS		General		Special Purpose		RESTRICTED			
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	284	8,396	29	1,304	1	131	--	140	--	25
FY 1981 Base	293	9,428	29	1,327	1	64	--	519	--	25
FY 1982 Estimate	300	10,354	32	1,590	--	67	--	10	--	25

*FTP = Full-time permanent positions

Analysis of Increase (Federal Request)

Necessary Pay.....132
Inflation.....144
Program Funds.....650

The FY 1981 base for all units in the Museum Programs Activity totals 293 positions and \$9,428,000. A program increase of seven positions and \$650,000 is requested for FY 1982. Necessary pay of \$132,000 is required for existing staff and an amount of \$144,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

Four new positions and \$104,000 are for the Conservation Analytical Laboratory to continue to prepare for the expanded operations that will become possible at the Museum Support Center (MSC). Also related to the MSC, the Office of the Registrar is seeking one new position and \$25,000 for a specialist in the handling of objects and specimens that will be moved to and from the Museum Support Center. For the Smithsonian Institution Libraries, an additional amount of \$222,000 is requested, primarily to further the automation of the collections management of the Libraries' holdings and to expand automated reference services. The proposed funds also will be used for conservation, book purchases for two branch libraries, publications and travel.

An increase of two positions and \$164,000 is requested for the Smithsonian Institution Traveling Exhibition Service (SITES). The proposed new resources will be used mainly to expand the services offered by SITES and to assure that an affordable fee structure can be maintained. Of the additional resources sought for SITES, two positions and \$51,000 are for an exhibition coordinator and education specialist: (these positions will enable SITES to offer more exhibitions, including some from abroad and to add to the educational materials that accompany its exhibitions); an amount of \$67,000 will help defray the higher costs of shipping; and \$46,000 will be used to improve the functioning of the Office through computerization of exhibits scheduling and routing data. A further increase of \$107,000 is sought for two offices within the Office of the Assistant Secretary for Museum Programs: \$50,000 for the Office of Horticulture to develop an urgently needed extension of its plant production and maintenance

operations at its Greenhouse-Nursery Division (the plants are used in conjunction with Smithsonian exhibitions and in landscaping programs); and to establish a tree maintenance program; and \$57,000 for the South Group Buildings Management (Smithsonian Institution and Arts and Industries Buildings) to provide several buildings management functions. Finally, the Smithsonian Archives is seeking an increase of \$28,000 for acceleration of the microfilming of documents, for the purchase of compact shelving and for automation.

The sources and uses of nonappropriated Trust funds are explained individually for each line-item in the Museum Programs Activity.

OFFICE OF THE ASSISTANT SECRETARY FOR MUSEUM PROGRAMS

AND

OFFICE OF MUSEUM PROGRAMS

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	90	2,316	--	21	1	95	--	79	--	--
FY 1981 Base	91	2,531	--	9	1	63	--	31	--	--
FY 1982 Estimate	91	2,702	--	14	--	65	--	5	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	91	0	91
Number of Other Positions.....	32	6	38
11 Personnel Compensation.....	1,973	102	2,075
12 Personnel Benefits.....	189	9	198
21 Travel & Trans. of Persons.....	17		17
23 Rent, Comm. & Utilities.....	45	1	46
24 Printing and Reproduction.....	6	1	7
25 Other Services.....	116	25	141
26 Supplies and Materials.....	144	22	166
31 Equipment.....	41	11	52
Total	2,531	171	2,702

Analysis of Increase

Necessary Pay.....	37
Inflation.....	27
Program Funds.....	107

ABSTRACT - The Office of the Assistant Secretary for Museum Programs coordinates and provides direction to the Institution's central museum management and program support activities, maintains liaison with national and international museum organizations, undertakes special studies for improvement of museum operations and methodologies, and assists and advises the Secretary on these and related matters. The Office also furnishes advice and technical assistance to other museums, undertakes studies on the effectiveness of museum exhibits, programs and management methods, conducts training seminars and workshops on museum management for museum personnel, and disseminates technical information on museum practices. Included under this heading are the Office of Museum Programs, the Office of International Activities, the Office of Horticulture, and South Group Buildings Management.

For FY 1982, an increase of \$107,000 is requested, consisting of: (1) \$50,000 to enable the Office of Horticulture to secure additional part-time labor personnel to assist with the plant production and maintenance operations of its Greenhouse-Nursery Division and to secure contractual maintenance services for care of trees, removal of ivy from buildings, and other landscaping services on Smithsonian property; and (2) \$57,000 to hire part-time labor and custodial assistance for seven day a week care of the Arts and Industries and Smithsonian Institution Buildings, for purchase of related supplies and materials, and to replace obsolete and deteriorated building maintenance equipment. An amount of \$37,000 is required for necessary pay for existing staff and an amount of \$27,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - I. Immediate Office, Assistant Secretary for Museum Programs:

This Office administers, oversees, reviews and supports the Office of the Registrar, Conservation Analytical Laboratory, Office of Exhibits Central, Smithsonian Institution Libraries, Smithsonian Archives, National Museum Act, Office of Museum Programs, Smithsonian Institution Traveling Exhibition Service, Office of Horticulture, Office of International Activities, and South Group Buildings Management.

In cooperation with other units of the Institution, the Office coordinates projects related to the development and improvement of facilities and operational methods of the Smithsonian museums and works closely with museum professionals nationally and abroad. In this capacity it works to enhance the scholarly, exhibition and educational functions of museums; encourages the development of new techniques in museum administration and practice; establishes improved training programs for museum professionals; and studies the application of contemporary technologies to museum needs in such areas as conservation and collections management and storage.

In FY 1980, the Office continued its direction of the detailed architectural and program planning effort for the Museum Support Center in cooperation with the General Services Administration. Working drawings and specifications were completed and bids were solicited in September 1980. Although a delay occurred in the award of bids until additional funding could be provided, a construction contract was signed in January 1981. It is projected that the Museum Support Center will be completed early in 1983. The Office continued to compile data on future operational and equipment requirements for the Museum Support Center working with the future occupants of the Center. (These requirements are detailed in the Special Programs section under Museum Support Center Equipment in this budget request.) The Office also administers the funds appropriated by the Congress to accelerate the Institution's collections inventory work. (This program is described in the Special Programs section under the Collections Management/Inventory Program.) In FY 1981, the Office will undertake coordination of the expanded Native American Program also described in the Special Programs section. (Resources of one position and \$53,000 associated with the Program previously described under the Office of Museum Programs, now are included in the expanded Program.) During the past year, the Office reviewed and commented on the museum collections management policy statements developed by the museum bureaus of the Institution and continued to review the work of the task forces assigned to carry out recommendations contained in the "Collections Management and Policy Study." The Office participated actively in a number of national and international museological activities throughout the year, with particular emphasis on coordination of cultural and scientific exchanges with the Chinese Academy of Sciences of the People's Republic of China.

II. Office of Museum Programs: This Office conducts training programs for museum personnel, arranges internships and plans and conducts special conferences on museum matters; produces informational audiovisual presentations on museum conservation practices for distribution to museums and educational organizations; undertakes evaluation studies to develop data for the improvement of the quality and effectiveness of museum exhibitions and educational activities; and provides program supervision for the Museum Reference Center, which is a major library source for museological information in the United States.

The Museum Training Program offers courses in the form of seminars and workshops taught primarily by Smithsonian staff for individuals employed by museums throughout the United States and abroad. Each course is devoted to a specific topic. These courses cover such subjects as design and production of exhibits, museum lighting techniques, development of educational activities, cooperative programs with schools, museum budgeting, accounting and management methods, preparation of museum publications, and registration methods.

The museum training workshops continued to attract capacity attendance. In FY 1980, 742 museum professionals attended the 40 workshops which were offered; in FY 1981, 43 workshops will be held for an anticipated 800 participants. A comparable number of workshops will be scheduled for FY 1982. The size of the Training Program is limited only by space available for the workshops and the staff time required for planning and conducting them. As a means of expanding the Program for additional interested museum professionals, the Office has, at no cost to the Smithsonian, conducted several on-site workshops held in other cities in cooperation with local museums and museum-related organizations. It has planned to conduct seven such workshops in FY 1981 and approximately the same number in FY 1982. A series of specialized workshops for Smithsonian staff was offered in 1980 and will continue through 1981.

The Conservation Information Program produces videotape and slide cassette programs illustrating and explaining museum practices and techniques, with emphasis on museum conservation and care of collections. These are made available as loans to museums, museum-related organizations and academic institutions throughout the country. Since 1974, 16,250 slide cassettes and 1,672 videotape programs have been circulated to such organizations. In addition, 24 major museums or conservation training centers in the United States and abroad have purchased many copies of videotapes and slide sets for their continuing use for training activities. In FY 1980, 32 slide cassettes and three videotapes were sold for these purposes. With available resources this Program continuously updates and maintains the necessary production equipment to assure an acceptable quality in its products. In FY 1981, it has planned to produce eight additional programs, two of which are being funded by the Smithsonian Trust funded Educational Outreach Program. As a cooperative endeavor, the Conservation Information Program also is distributing six videotapes produced by the Smithsonian Folklife Program and two slide cassette presentations produced by the Advisory Council on Historic Preservation.

In FY 1980, the Evaluation Studies Program conducted a series of meetings with most of the bureaus of the Institution to develop plans for evaluating many of their exhibits and educational activities. Several evaluation study projects have been initiated as a result. Two studies each have been completed for the National Museum of Natural History/Museum of Man and for the Hirshhorn Museum and Sculpture Garden. An analysis of the effectiveness of the Smithsonian Institution Traveling Exhibition Service users survey also occurred in FY 1981. Plans call for evaluations dealing with specific museum needs at the Renwick Gallery, the Anacostia Neighborhood Museum and for other galleries and programs of the National Museum of Natural History/Museum of Man.

The Museum Reference Center remains the most complete library of museological information in the United States. In FY 1980, the Center responded to more than 4,000 requests which came from all 50 states and from several foreign countries for information on museums and museum operations.

III. Office of International Activities: The Office of International Activities fosters and coordinates international aspects of Smithsonian museum programs and research programs in the natural sciences and cultural history. The Office serves the Institution's interests abroad through continuing liaison with private institutions and with governments, both in the United States and abroad, and with international organizations.

The Office serves Smithsonian programs by: advising on foreign affairs affecting them; contributing to the search for funds to support them; and investigating opportunities for international cooperation important to professional staff members. The Office provides logistical support for Smithsonian scholars and their foreign collaborators by obtaining research permits, import and export permits for equipment and specimens, and by arranging for passports and visas. It also fosters exchanges among other United States and foreign institutions devoted to the preservation and study of man's natural and cultural heritage.

During FY 1980, efforts continued to develop cooperative relationships with the People's Republic of China (PRC). As a consequence, the Institution signed an Agreement on Scientific Cooperation with the Chinese Academy of Sciences in December 1980. The agreement resulted from the work of a Smithsonian delegation to China in November 1979, from the consequent submission in April 1980 to Vice Premier Fang Yi of a Smithsonian proposal made up of 15 cooperative research projects in natural history and archeology.

The successful 1979 International Visitor Program entitled "Education in Museums and Science Centers" carried out by the Office of Museum Programs in cooperation with the International Communications Agency (ICA) resulted in plans for a similar museum education study tour for foreign museum professionals in early 1981. Additional study tours jointly sponsored by the Office of Museum Programs and ICA are proposed for future years bringing together American and foreign museum professionals in specialized fields like conservation exhibits production.

In FY 1980, the Office of International Activities arranged for 126 short term visits to the Institution by delegations and individual foreign visitors from 68 countries. In addition, the Office prepared necessary documents for 27 exchange visitors and foreign students from 14 countries who conducted research and related activities under Smithsonian programs. The Office has responsibility for administering Institution participation in ICA's International Educational and Cultural Exchange Program (Fulbright-Hayes Act).

IV. Office of Horticulture: The Office of Horticulture uses the disciplines of horticulture as an educational, scientific, research and display program for the Smithsonian Institution. The Office performs a number of functions which include providing interior and exterior landscaping services, from design through installation and maintenance; research and development of historically styled gardens and interior planting; maintenance of Smithsonian grounds and care of trees; operation of a large greenhouse-nursery complex; and the development and conduct of educational and display programs related to horticulture. Responsibilities of the Office also include pest control and snow and ice removal from sidewalks and parking lots. In FY 1980, the Office opened an exhibition on Victorian garden furnishings, floral arrangements and horticultural styles.

Support given by the Office of Horticulture to Smithsonian exhibition programs through the provision of special interior horticultural landscaping and flower arrangements has increased substantially in recent years. This support has added to the effectiveness of exhibitions throughout the Institution, and has contributed greatly to the enjoyment of millions of visitors. In FY 1980, the Office provided hundreds of plant and flower arrangements for Smithsonian buildings. Each year the Office develops 25 landscape exhibitions and rotates planting in 45 flower beds on Smithsonian grounds. These activities involve the planting of more than 325,000 plants and bulbs annually.

During FY 1981, the Office will undertake regularly scheduled management of the grounds and flower beds of the Museum of African Art and of the interior plant program as well, and will install the planting areas and provide scheduled maintenance for the new Sensory Garden, located east of the Arts and Industries Building. The Garden, which is being developed entirely with the Institution's nonappropriated Trust funds, will be completed in April 1981.

The Office has accumulated valuable collections of data and reference materials on the history of horticultural styles, furnishings, and designs, which are a resource for scholars and others interested in the development of American horticulture and its antecedents. It has acquired an outstanding collection of rare orchids and other tropical plants for use in display and research.

V. South Group Buildings Management: South Group Buildings Management is responsible for cleaning, minor maintenance, labor services, relamping, maintenance contract administration, for shipping and receiving for the Arts and Industries and Smithsonian Institution Buildings, and for responding effectively to urgent situations which may affect their maintenance. These two buildings serve as the administrative center of the Institution and are occupied by a large number of organizational units which provide critically important services to the Institution. It is important that high levels of maintenance, janitorial and related services be maintained throughout these buildings for appearance, safety and efficiency. Services must be provided on a seven-day per week basis.

EXPLANATION OF PROGRAM INCREASE - Office of Horticulture - Additional resources of \$50,000 are requested for this Office for two purposes. The major portion of the proposed increase, an amount of \$35,000, will be used to provide part-time and seasonal help to develop an urgently needed extension of the plant and tree nursery at the United States Soldiers' and Airmen's Home. This additional nursery space will enable the Office to increase plant production and propagation to meet demands for floral and landscaping arrangements used in conjunction with Smithsonian exhibitions and programs, and to maintain and improve landscaped areas in and around Smithsonian buildings. Many of the plants needed and used in the horticultural program are not readily available on the commercial market; some represent endangered and rare species. Production of these plants by the Office is less expensive than acquiring them through purchase and also allows adequate time for initial propagation and growth of specimen plants to landscape size. The increasing number of landscaped areas the Office is required to maintain also demands greater quantities of plant production. The remaining \$15,000 of the request is to allow the Office to fund contractual services to establish a tree maintenance program for large trees both on and off the Mall in grounds surrounding Smithsonian buildings. Proper maintenance of trees is essential for public safety as well as for the preservation of existing trees. This sum also will permit the Office to keep the ivy on the Arts and Industries and Smithsonian Institution Buildings correctly trimmed for both esthetic and building safety reasons.

South Group Buildings Management - An increase of \$57,000 is requested for several purposes: an amount of \$44,000 is sought to enable the South Group Buildings Management to obtain part-time and seasonal custodial and labor assistance and cleaning supplies for the Smithsonian Institution and the Arts and Industries Buildings for seven day a week operations, particularly during extended summer visitation hours when use of the buildings is at its peak. In addition, an amount of \$4,000 will be applied to an improved trash removal program to assure proper levels of safety and sanitation in the vicinity of these two important and historic structures. Finally, an amount of \$9,000 will make possible replacement of deteriorated and obsolete equipment needed in the custodial and maintenance program for the buildings. Equipment to be replaced includes such items as crank-up ladders for lamping high fixtures and floor buffers and vacuums whose electrical components are worn and beyond repair. Replacement is essential for efficient operation and to avoid hazardous and unsafe conditions for custodial and labor personnel.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are derived from fees paid by participants in the Office of Museum Programs workshops; from proceeds from sales of tapes and slides on Conservation Theory and Practice, sold at cost to interested museums and related educational organizations; and from allotments. These funds are used to purchase supplies, services and equipment for training in conservation information programs; for horticultural materials; and for special events related to these programs as well as national and international museological activities. In FY 1980, funds were provided from the Institution's Collections Acquisition, Scholarly Studies and Education Program (\$11,000) for the support of the Smithsonian's Symposium entitled, "Children in Museums" planned by the Office of Museum Programs. Expenditures under the Collections Acquisition, Scholarly Studies and Education Program have been recorded for FY 1980, but not yet for FY 1981 and FY 1982. These offices can expect to receive and spend funds made available through this Program in FY 1981 and FY 1982.

Restricted Funds - Funds provided here are in the form of gifts and foundation grants from individuals, organizations and corporations for specific purposes. In FY 1980, for example, funds were provided from the Society of American Florist Endowment (\$25,000) and the Florist Transworld Delivery, Inc. (\$12,000) to support the exhibition "Horticultural Extravaganza" on display in the Arts and Industries Building. Individual contributions in FY 1981 (\$23,000) are expected to continue the support for this exhibition. No significant funds are anticipated for FY 1982 at this time.

OFFICE OF THE REGISTRAR

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
			FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	4	115	--	--	--	--	--	--	--	--
FY 1981 Base	4	128	--	--	--	--	--	--	--	--
FY 1982 Estimate	5	156	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	4	1	5
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	104	19	123
12 Personnel Benefits.....	11	2	13
21 Travel & Trans. of Persons.....	3		3
23 Rent, Comm. & Utilities.....	5	1	6
24 Printing and Reproduction.....		1	1
25 Other Services.....	2	1	3
26 Supplies and Materials.....	3	2	5
31 Equipment.....		2	2
Total	<u>128</u>	<u>28</u>	<u>156</u>

Analysis of Increase

Necessary Pay.....	2
Inflation.....	1
Program Funds.....	25

ABSTRACT - The Office of the Registrar is responsible for Institutional development, oversight and coordination of collections management policies and information management techniques for all museum objects and specimens held by the Smithsonian. It is charged with the promotion of standardized systems for capturing data on objects in the National Collections and with assisting bureaus in the establishment of modernized information and collections handling systems. An increase of one position and \$25,000 is requested for FY 1982 to hire a transportation specialist who will develop plans for the safe movement of objects and specimens between the Mall and the Museum Support Center once the Center is completed, and thereafter provide specialized handling capability for these objects and specimens. An amount of \$2,000 is required for necessary pay for existing staff and an amount of \$1,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - From the 1880s until 1976, the Office of the Registrar provided centralized registration services for the collections that are now parts of the Museums of Natural History and American History (History and Technology). Through the years centralized support of these collections had become antiquated and inadequate while little centralized support was being provided for other collections. Consequently, traditional registration functions were completely decentralized over a two-year period which ended in 1976. At that time the emphasis was shifted from record keeping to improvement of systems and policies, and the mission of the Registrar's Office was expanded to provide support for all bureaus in the Institution.

Following the designation of collections inventory control as an urgent Institutional priority, this Office developed the Smithsonian's policy and plan for conducting collections inventories in all museum bureaus. Coordination and monitoring of collections inventory processes now have become continuing responsibilities of the Office. Members of the staff assist individual museums as appropriate, with the goal of securing computerized inventory records for all Smithsonian collections. This effort is being pursued in concert with a related computerization effort involving the Office of Computer Services whose ultimate objective is the inclusion of registration, cataloguing, inventory and related data in compatible computerized files to permit exchange and consolidation of data for research and management purposes. In further support of these activities, the Registrar's Office will continue to conduct a seminar program, initiated in FY 1978 for Smithsonian personnel in the information management aspects of collections management. Additional workshops on collections management also are held in cooperation with the Office of Museum Programs for museum professionals throughout the country. Other continuing responsibilities of the Office include coordinating the Smithsonian Registrarial Council, through which interbureau registrarial business is conducted and cooperative procedures are developed; and coordinating the work of the Institution's Collections Policy and Management Committee, which has expanded its activities and established a number of subordinate task forces to conduct specific projects. The Office also maintains contacts with national and international organizations and associations concerned with applications of computers to collections management functions and with other museums involved with the development of innovative automation processes.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of one position and \$25,000 is requested to hire a specialist in the handling of objects and specimens that will be moved to and from the Museum Support Center. The objects and specimens that have been designated for transfer to the Support Center will be moved by trained personnel and protected by special packing. However, after the initial relocation to the Center has been accomplished, the Institution will face a continual requirement to support a steady traffic of small shipments back and forth between the Mall and the Support Center in Suitland, Maryland. A museum object or scientific specimen which can last almost indefinitely in environmentally controlled storage is placed at great risk every time it is moved. Even relocation from one room to another can damage an object or hasten its deterioration if the object is not handled by someone who is trained properly or moved on an appropriately designed conveyance. Entrusting easily damaged museum objects and scientific specimens to constantly changing combinations of drivers and helpers not trained properly to handle them and moving them in vehicles ordinarily used for general Institutional transportation would result in irreparable damage unless they were packed as carefully as they would be for ordinary commercial shipping. Because full packing would be prohibitively expensive in view of the anticipated traffic volume, the Registrar's Office will support this continual shipping activity with a specially designed vehicle and three trained employees assigned permanently to the transportation of museum objects and specimens between the Mall and the Museum Support Center.

The new position being sought for FY 1982 eventually will supervise and train two driver/handlers who will be hired after the Support Center is opened. In the interim, the transportation specialist will have the duties of determining the detailed requirements for the movement of objects, including the gathering of information on approved techniques for such movement, developing appropriate specifications for the vehicle to be used for transport, and arranging for its acquisition. In addition to funding the position of transportation specialist, the amount of \$25,000 sought will be used for the purchase of experimental equipment and supplies.

CONSERVATION ANALYTICAL LABORATORY

(Dollars in thousands)

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	22	654	--	--	--	--	--	--	--	--
FY 1981 Base	29	932	--	--	--	--	--	--	--	--
FY 1982 Estimate	33	1,073	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	29	4	33
Number of Other Positions.....	0	4	4
11 Personnel Compensation.....	589	78	667
12 Personnel Benefits.....	58	8	66
21 Travel & Trans. of Persons.....	25		25
22 Transportation of Things.....	1		1
23 Rent, Comm. & Utilities.....	15		15
24 Printing and Reproduction.....	20		20
25 Other Services.....	94		94
26 Supplies and Materials.....	38	12	50
31 Equipment.....	92	43	135
Total	932	141	1,073

Analysis of Increase

Necessary Pay.....	19
Inflation.....	18
Program Funds.....	104

ABSTRACT - The Conservation Analytical Laboratory (CAL) is primarily responsible for advising and assisting Smithsonian museums in the study and the preservation of the National Collections. It provides extensive conservation, analytical, information and educational services for this purpose. For FY 1982, CAL is requesting four new positions and \$104,000 to prepare for the conservation programs and operations that will become possible in the additional space at the Museum Support Center. Necessary pay in the amount of \$19,000 is required for existing staff and an amount of \$18,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Conservation Analytical Laboratory was established in 1963 to serve the museums of the Smithsonian Institution. Staffed by conservators, scientists, and information officers, the Laboratory provides expert services for

the study and treatment of the collections. These services include: scientific examination of objects; treatment for protection and preservation; analyses of objects to establish facts of interest to scientists and historians; developing, recording and providing data essential for a full understanding of museum collections; advising on environmental conditions within the Smithsonian museums where valuable objects are displayed or stored; and conducting and assisting conservation training programs. A major responsibility of the Laboratory is to provide conservation treatment of objects which cannot be treated locally, which present special problems, or which require more specialized equipment than is available in museum bureaus.

During FY 1980, CAL acted on 155 requests for conservation services from museums and other bureaus of the Institution. In addition, the conservation staff provided oral and written advice, expanded the available number of its analysis and treatment guideline sheets to 354, of which 77 were revised during FY 1980, and 10,000 copies distributed to conservators and to the public in answer to inquiries. The CAL staff prepared several papers for publication and presented lectures to specialized audiences through the National Associates Regional Program and to the conservation workshops administered by the Office of Museum Programs. CAL's library, part of the Smithsonian Libraries, has made a concerted drive to fill gaps in its reprint file - 4,500 are now at hand.

Data processing furnishes vital support to CAL both for statistical compilation of analytical data and for access to conservation reports. Access through CAL's own terminal to the computerized index of "The Art and Archeology Technical Abstracts" held at the British Museum Research Laboratory now makes this material easily retrievable. Additional abstracts, gathered and prepared by CAL staff from national or local sources, are indexed through an optical reader system. It is hoped that this data, in time, can be computerized to supplement the international data already processed. Research and treatments reports prepared by CAL staff are edited carefully so that they may be of greatest use to other Smithsonian Institution staff who may wish to consult the data they contain. The editor of these reports also prepares keywords and abstracts for entry into the Smithsonian computer. Now, with two million characters on file, the existing program system is reaching saturation. In the months ahead, new computer methods will be initiated, possibly in conjunction with a commercial data bank. In developing key word lists, wherever possible CAL strives to employ those used by "The Art and Archeology Technical Abstracts" and the International Centre for Conservation in Rome. The aim is to have CAL's resources become part of a body of conservation information that will be an important component of the growing international network of data bases.

CAL science serves two general areas. One is associated closely with the treatment of objects and the preservation of the collections. For this, prompt response and timely results may be crucial. Other science activities of CAL, however, relate to providing to art historians, archeologists and anthropologists, detailed investigations on the property and nature of materials, and the manner in which they were combined or formed. The technical knowledge gained in this fashion can provide important new understandings. These two areas of research, though closely related, have somewhat different intellectual motivations. Conservation science is concerned primarily with the preservation and treatment of objects. The analyses of objects or their materials, such as pigments, ceramic, fibers, alloys, or corrosion products using advanced instrumentation serve to determine appropriate conservation procedures. Based upon such examination, advice is given to curatorial units for precise conservation procedures appropriate for specific objects. "Archaeometry," the measurement of specific characteristics of groups of objects and interpretation of the findings, is concerned with more complex aspects which may involve a variety of scientific disciplines. It provides curators,

archeologists and historians with basic research data concerning date, attribution and the technologies of earlier production methods. It is expected that both fields of research will be strengthened greatly with the move to the Museum Support Center of most of CAL's conservation activities. The current space then will be rearranged to meet the special needs of Archaeometry. In addition to its own very extensive instrumentation, CAL has, and will continue to have access to the specialized laboratories of the National Museum of Natural History/Museum of Man, the National Gallery of Art, the National Archives, the National Bureau of Standards, the Brookhaven National Laboratories and other organizations with whom CAL maintains close cooperative contacts.

The small but effective Archaeometry staff of CAL has been working in a variety of fields; for example, the study of the nature and structure of Baroque harpsichord wires. Another staff member is working on ancient cements, some of which have been found to have extraordinarily durable properties. A major aspect of CAL's archaeometric studies involves cooperation with the National Bureau of Standards and the regular series of co-sponsored seminars. Several of these have resulted in important publications.

To a considerable extent, the damage that occurs to works of art can be minimized by museum staffs if they are thoroughly conversant with environmental requirements and understand the various processes that result in the degradation of objects. To provide for a better informed constituency, and to supplement guidelines and personnel consultations, CAL offers a series of 80 orientation videotaped lectures each fall and winter for all interested Smithsonian Institution staff. In addition, it participates in Office of Museum Programs workshops and staff members take an active part in the meetings of the Washington Conservation Guild. CAL also funds a fellowship in materials science, in cooperation with the Office of Academic Programs. In addition to working in CAL laboratories, Fellows work in such laboratories as those at the National Bureau of Standards or Mineral Sciences of the National Museum of Natural History/Museum of Man, which are appropriate to the nature of the research being performed. These Fellowships have been developed to bring special talents to bear on scientific problems associated with archaeometric research. CAL will be cooperating closely with the Smithsonian Training Program in Conservation which will be initiated in 1983 at the Museum Support Center. While this is a separate program, it will work closely with CAL's staff to take full advantage of human and material resources. The curriculum offered at the Support Center will be conducted in association with an area university.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, four new positions and \$104,000 are requested to continue the process of preparing for the expanded operations that will become possible at the Museum Support Center. Of the additional \$104,000 requested, \$69,000 is to provide for the full year the costs of the seven positions approved for FY 1981, and \$35,000 is for part-year costs of the four positions sought for FY 1982. These four positions will be filled only during the last quarter of FY 1982, and funds of approximately \$60,000 to provide for their full year costs are expected to be sought in FY 1983.

CAL projects a gradual increase in its staff from the present level of 29 positions, consisting primarily of conservators, conservation scientists, and persons qualified to provide conservation instruction, to 49 positions in FY 1985. This increase will allow CAL to meet the expanding conservation needs of the Institution, reduce the backlog of materials requiring treatment, serve as a clearinghouse, nationally and internationally, for vital conservation information, and contribute to the training of qualified conservators and conservation technicians. It is anticipated that 27 CAL staff positions will be stationed at the MSC for conservation treatment and training and 22 in the existing laboratory in the American History Building to conduct archaeometric and other conservation science research.

The four positions sought for FY 1982 consist of a radiographer, information officer, paper conservator, and conservation coordinator.

CAL will provide radiographic services for all of the units occupying the Museum Support Center. Radiography makes use of high powered X-ray machines to research the structure or detect hidden characteristics of objects such as internal cracks, to identify crystalline substances such as corrosive deposits, and, to identify chemical elements present in materials needing treatment. A new position for a radiographer will permit the establishment of procedures, to prepare for the use of the equipment when the Museum Support Center begins operations in 1983, and to provide radiographic service after that time. The information officer will assist with the management of information and data contained in conservation abstracts and treatment reports which detail steps and measures taken when objects are treated. These files will be used by other conservators, both nationally and internationally, through the computerized index to "The Art and Archeology Technical Abstracts" when similar objects or materials receive treatment. Currently the CAL file has approximately 5,600 entries and new abstracts accumulate at a rate of 1,200 annually. CAL has a one-year backlog of information which must be prepared properly for computer entry in order to be available for use and reference for conservation treatment and training purposes. A paper conservator position is required to cope with objects requiring treatment. There is a backlog of 112 such objects belonging to the National Museum of American History alone. These include George Washington's account book detailing expenses incurred during the Revolutionary War, a print of Washington's cabinet members dated 1789, and the warrant for the arrest of Geronimo, the Apache Chief. Paper materials of these kinds represent the largest single conservation need in Smithsonian museum collections at this time. An additional conservator position (generalist) will serve as a liaison and coordinator between the conservation/scientific staff of CAL and the curators, collections managers, and other staff of Smithsonian museums requisitioning CAL conservation and analytical services. The proposed new position will help them to identify the specific conservation needs of their collections, determine conservation priorities and prepare service requisitions. These functions will be particularly important after CAL's relocation to the Museum Support Center, not only because of the greater distance that will exist between CAL's laboratories and the curators on the Mall, but because CAL will have an increased capacity for the treatment of objects which will permit gradual reduction of the existing backlog of conservation work that must be done. The orderly flow of objects, allowing proper scheduling of treatments, is necessary for the well being and safety of the objects themselves and for the efficient operation of the laboratories.

SMITHSONIAN INSTITUTION LIBRARIES

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	99	2,730	9	214	--	--	--	52	--	--
FY 1981 Base	100	3,087	9	208	--	--	--	8	--	--
FY 1982 Estimate	100	3,430	9	216	--	--	--	5	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	<u>Base FY 1981</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1982</u>
Number of Permanent Positions.....	100	0	100
Number of Other Positions.....	4	3	7
11 Personnel Compensation.....	2,033	64	2,097
12 Personnel Benefits.....	200	5	205
21 Travel & Trans. of Persons.....	13	4	17
22 Transportation of Things.....	1	1	2
23 Rent, Comm. & Utilities.....	26		26
24 Printing and Reproduction.....	82	8	90
25 Other Services.....	200	168	368
26 Supplies and Materials.....	319	48	367
31 Equipment.....	213	45	258
Total	<u>3,087</u>	<u>343</u>	<u>3,430</u>

Analysis of Increase

Necessary Pay.....	44
Inflation.....	77
Program Funds.....	222

ABSTRACT - The Smithsonian Institution Libraries (SIL) is a major American research library, providing library and information services to support the research, exhibit, public service, and education programs of the Institution. In addition, SIL provides direct public service through its own exhibits, publications, research, internships, and seminars. In FY 1982, an increase of \$222,000 is requested, consisting of: (1) \$195,000 to further the automation of the collections management of SIL holdings and to expand automated reference services; (2) \$13,000 to begin a mass deacidification conservation program; (3) \$6,000 to improve the library collections of the Museum of African Art and the Cooper-Hewitt Museum; and (4) \$8,000 to expand outreach services. Necessary pay of \$44,000 is required for existing staff and an amount of \$77,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Smithsonian Institution Libraries, a system of 36 branch libraries and collections, serves the Institution and the public through support of Smithsonian research, museum and administrative units; through direct participation in the building of national bibliographic networks; and through programs of publications, exhibition, loans, and information services. The Smithsonian Libraries are envisioned in the original Congressional charter of the Institution. Fundamental to SIL planning is the growing national realization that electronic technologies have advanced to the stage that they will permit new modes of information transfer and resource sharing in the 1980s. SIL now contributes its cataloguing to a national data base shared by 2,000 libraries.

Cost of the Libraries' system is controlled by the centralization of certain operations: an interdisciplinary reference/information center; an acquisitions and cataloguing division; a consolidated administrative staff; and conservation activities. Since the branch libraries of the system are dispersed throughout the Institution, they provide direct and local services to researchers through pertinent book collections and specialized reference services. Many collections of the SIL are among the finest in the United States; especially noteworthy are the natural history, decorative arts and design, and Dibner history of science resources. Collections costs are kept down by borrowing from other research libraries, particularly the Library of Congress.

The activities of the SIL may be described in terms of automated collection management, automated reference services, library facilities planning, collections management, conservation, and outreach.

Automated collection management - Since 1974, SIL has been adding its current cataloguing (inventorying) to a nationally available electronic data base (referred to as OCLC), thus sharing with other libraries in the reduction of cataloguing costs. In FY 1981, this SIL electronic data no longer was printed onto traditional catalogue cards, but was made available on computer-output microfiche, eliminating maintenance of the 37 SIL card catalogues. This catalogue conforms to the new national cataloguing standards (referred to as AACR2). With funds sought in FY 1982, SIL plans to begin to add pre-1974 bibliographic records to the national data base.

Automated reference services - In FY 1981, using grant funds, telefacsimile transmission of scholarly articles between SIL's central information service and three branch libraries was initiated. The results of the experiment will show whether telefacsimile should be a part of SIL's regular program.

SIL has improved enormously its scholarly reference services through use of some 2000 on-line bases for the arts (e.g. Art Modern), the sciences (e.g. Chemical Abstracts), and the humanities (e.g. History Abstracts). These up-to-the-minute searches shorten the time it takes to do research. Funds requested in FY 1982 will be used to build upon this service.

Interlibrary loans continue principally with the Library of Congress. However, steady use is made of the collections of other research libraries (and by them of SIL's collections). Since FY 1980, much of this sharing has been initiated via the electronic mail feature of the OCLC system (the national data base in which SIL participates).

Library facilities planning - Library facilities planning has two aspects: the provision of assistance to branch libraries in their own space planning; and the planning of future space for the central library. SIL will assist during 1981 and 1982 in the development of plans for library facilities at the

Smithsonian Tropical Research Institute in Panama, the Suitland Museum Support Center, the Chesapeake Bay Center, and the proposed Quadrangle complex, as well as for renovation in the east corridor of the Natural History Building for central library operations. This planning activity is critical, because the Smithsonian Institution Libraries as a large national research resource has desperate space needs. In FY 1982, all available space will be filled to overflowing, necessitating the planned leasing of space in FY 1983.

Collections management - The problems of selection and deacquisition, conservation, space planning, and collections management policies for this large library system were addressed by establishing the new position of Chief, Collections Management in FY 1981. Formerly, these were responsibilities of the Assistant Director for Reader Services, but with the growth of the collections, the increase in the number of branches served, the expanded range of reader services, and the rate of deterioration in collections, one person can no longer carry the burden. A Collection Development Policy Committee is continuously reviewing current practices in book and journal selection.

Conservation - The SIL maintains one of the finest book conservation programs in the United States. An internationally known conservator and three assistants are preserving the most valuable of SIL's materials from the deterioration which has resulted from chemical conditions in the paper and from improper storage conditions. In addition, the Libraries are exploring inexpensive ways to preserve the Libraries' holdings, such as through the mass deacidification project for which funds are being sought in FY 1982.

Outreach - The Smithsonian Institution Libraries, as the largest such system serving a museum research complex, has been increasingly aware of its national and international responsibilities, especially in the area of exhibitions, publications, and seminars. Thus, in FY 1981, a management seminar related to museum libraries was held for museum directors. A translation program continues to be administered by SIL from Excess Foreign Currency funds, making available in English otherwise inaccessible scientific monographs. In FY 1981, exhibits were scheduled on Dr. Bern Dibner's work, Heralds of Science, on old books versus rare books, on the guinea pig's role in science, on Michael Faraday, and on the recent Phipps donation to SIL. In FY 1982, exhibits are planned on the harp seal, on hermeticism (tying in with an international conference on the subject), and on two other topics still to be determined.

EXPLANATION OF PROGRAM INCREASE - Summary - For FY 1982, an increase of \$222,000 is sought consisting of a total of \$195,000 to further the automation of the collections management of SIL holdings and to expand automated reference services; \$13,000 to begin a mass deacidification conservation program; \$6,000 to improve the collections of two branch libraries of the SIL system; and, \$8,000 to expand outreach services of the SIL both within the Institution and throughout the country.

Automation - Increasing the degree to which clerical processes are automated is the only way to reduce the rate of rising costs in a labor intensive activity, such as a library, without harming service. Consequently, an amount of \$160,000 is sought to further the automation of the collections management of the SIL holdings, and an additional \$35,000 is requested to expand automated reference services.

The Libraries present automated record of serials contains some information on the approximately 18,000 serial titles held by the Smithsonian, but does not contain information on the exact volumes and years. An additional sum of \$25,000 is sought for temporary staff who are needed to code and enter holdings information into the automated records system. With this information the system

will be a much more useful tool for researchers. At the same time a system will be planned to keep the basic holdings information up to date. The improved serial data base will provide a central inventory record and serve as the basis for a fully automated serials control system in the future.

The Libraries union catalogue provides the primary means of access for users of the collections. It also serves as the central inventory record of Smithsonian holdings. There are, however, approximately 15,000 titles for which no records exist. An amount of \$35,000 is sought to establish a program to make full inventory records of these collections. The funds are designated for a temporary employee to coordinate the program and for outside cataloguing services. The resources being sought for the automated records system and for the inventory program were requested in FY 1981, but were not funded. They are being requested again since they directly tie into SIL plans to automate all catalogue records.

The Smithsonian Institution Libraries has a card catalogue containing about one million records. These records were accumulated until FY 1974, when the SIL began adding its cataloguing to a nationally available electronic data base. To unify the pre-1974 records with the present on-line catalogue of SIL collections, these records must be added to the electronic data base, and an amount of \$100,000 is requested to convert these records to machine readable form. The funds will be used to hire temporary employees and for contractual services. This program is critical to the future of the SIL system, and ultimately will reduce the cost and increase the accuracy of access to SIL information. The program also will allow SIL resources to be shared with other North American libraries.

An amount of \$35,000 is proposed to meet the greater demand for automated reference services in the 36 branches and collections now in the SIL system. These services apply computer technology to the searching of some 200 indexes, abstracts and other data bases. This service reduces substantially the cost of doing research and brings the most recent literature to the attention of the Institution's scholars and scientists. Of the \$35,000 sought for this purpose, an amount of \$20,000 will be devoted to rental of the various computer based reference services and \$15,000 is requested to purchase additional computer terminals so that staff in the branch libraries can serve clientele on the spot. The terminals will also have ancillary uses such as internal communication among the libraries of the SIL system and interlibrary loans. The rental of data bases will eventually reduce the necessity to purchase certain expensive printed materials.

Conservation - An amount of \$13,000 is sought for a full level deacidification program in the Book Conservation Laboratory. The amount requested will allow SIL to begin a mass deacidification program to stabilize papers with unhealthy chemical balance. "Mass deacidification" is a new, inexpensive process done in a type of fumigating chamber; the volumes do not have to be disbound and treated page by page as was formerly necessary. The work will not require equipment purchase, but rather will be done on a contractual basis.

Book funds - Funds of \$6,000 are requested for book purchases in two branch libraries. The Museum of African Art library is the newest in the SIL system and needs extensive help to improve the library collections so as to serve scholars using the treasures of that Museum. An amount of \$2,000 is requested for this purpose. The remaining \$4,000 is requested for the Cooper-Hewitt Museum library which serves the national community of the decorative arts and design. Increased programs of that Museum for the design and student communities place additional demands on the library collection. In particular, funds to expand and update background and reference materials are essential.

Publications and Travel - Finally, a sum of \$8,000 is proposed for essential travel out-of-town SIL branch libraries and for preparation and distribution of guides to the SIL collections. Part of this increase, will make possible travel which is essential for planning the new library facility at the Smithsonian Tropical Research Institute, and will increase the amount available for administrative travel to other out-of-town branch libraries. The remaining \$4,000 is requested to begin publication of a series of guides to SIL's unique and special collections. These guides would be distributed nationally and thus, serve the country at large by publicizing the possibilities for research within the SIL.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided in the form of an annual allotment and are used to support nine positions for FY 1981 and FY 1982. They also are used for travel, supplies, book binding, training and for the purchase of rare books of scholarly value. The Libraries traditionally has charged a portion of its expenses to Trust funds, reflecting the fact that it provides services to programs and offices which are funded from gifts, grants, contracts and other nonappropriated sources of funds.

Restricted Funds - Funds are provided in the form of gifts and foundation grants from individuals, organizations and corporations for specific use by the Libraries. For example, in FY 1980, a grant of \$50,000 was received from the Cafritz Foundation to collect the data for and produce a list of art periodicals in metropolitan Washington libraries. No other significant funds are anticipated for FY 1981 or FY 1982.

OFFICE OF EXHIBITS CENTRAL

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
	General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	47	1259	--	--	--	5	--	--	--	--
FY 1981 Base	47	1381	--	--	--	1	--	--	--	--
FY 1982 Estimate	47	1409	--	--	--	2	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	47	0	47
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	1,146	17	1,163
12 Personnel Benefits.....	112	2	114
21 Travel & Trans. of Persons.....	3		3
24 Printing and Reproduction.....	1		1
25 Other Services.....	15		15
26 Supplies and Materials.....	83	9	92
31 Equipment.....	21		21
Total	1,381	28	1,409

Analysis of Increase

Necessary Pay.....	19
Inflation.....	9
Program Funds.....	0

ABSTRACT - The Office of Exhibits Central (OEC) prepares exhibits and exhibit related products for museums, bureaus, programs and other offices that do not have, or have limited, internal exhibit producing capabilities. The OEC also provides specialized or supplementary assistance to all other bureaus and offices. No program increase is requested for FY 1982. Necessary pay in the amount of \$19,000 is required for existing staff and an amount of \$9,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The OEC designs, edits, produces, installs, and maintains exhibits; makes films and models; and provides other specialized services to the museums, bureaus, programs, and other offices of the Institution in order to support their exhibit activities. These services expand the capabilities and

resources of units without full-time or specialized exhibits staffs, and supplement the capabilities of those units that have their own staffs. In addition to exhibit production, consultation and referral of certain work to other sources during especially busy periods are important parts of OEC operations. Highly specialized OEC capabilities include editorial services, motion picture production, audiovisual presentation, lighting, freeze-dry taxidermy, and the services of the models, plastics and restoration units which specialize in museum uses of fluid thermosetting and reinforced plastics.

The OEC offers complete or partial exhibition support, depending on the specific needs of the requesting Smithsonian unit, and participates in highly specialized long-range projects, as well as the more immediate short duration presentations of the Institution. For example, after two years of study and design-model production, work was begun on a life size model of a late-Cretaceous period flying reptile (Quetzalcoatlus northropi) which, when completed in late FY 1981, will have a wingspan of 40 feet and will be suspended in the Dinosaur Hall of the National Museum of Natural History/Museum of Man.

In coordination with the Office of Museum Programs, the OEC also provides training in exhibition media and techniques in workshops for museum professionals throughout the world. New techniques, systems, and procedures used in exhibits fabrication are reported to the museum community. The Office also maintains relationships with government agencies, such as the Departments of Commerce and Agriculture which seek advice from OEC on the creation of models or exhibits that they produce for informational or educational purposes.

In FY 1980, the OEC received over 300 separate project requests. About 80 percent of these projects were completed during the year. Particular assistance was provided to the Smithsonian Institution Traveling Exhibition Service, for which OEC worked on more than 24 exhibitions. These services included design, editing and production of complete exhibits.

Also during FY 1980, the OEC motion picture unit produced and directed two important color films. One was made to explain the Institution's work with coral reefs in conjunction with the living coral reef exhibit at the National Museum of Natural History/Museum of Man and a second produced to accompany "The Clockwork Universe" exhibit on Renaissance clocks and automata at the National Museum of American History. Two 30-second television spots were also produced for use on PBS stations to announce "The Clockwork Universe" and "The Nation's Attic" exhibitions. In FY 1982, the same level of work for the Office is projected.

The Office of Exhibits Central is working on traveling exhibition projects that will be completed in the first half of calendar year 1981. Included is "Jupiter and its Moons", which is being produced in two copies, one which will open early in FY 1981 at the National Air and Space Museum and one for a later opening in Cincinnati, Ohio. Also scheduled during FY 1981 are workshops, a series of brochures, editing labels and other exhibit related text materials, and the production of graphics, models and accessories for several museums and program offices. OEC services for the Folklife Festival are in the planning stages, as are other activities for a variety of Smithsonian programs.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by tuition fees received from local universities and from the sale of film prints. They are used to fund temporary clerical assistance for the motion picture unit, miscellaneous supplies, support costs for exhibits design and construction, and travel related to consultation with other museums on exhibition techniques and developments.

SMITHSONIAN INSTITUTION TRAVELING EXHIBITION SERVICE

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	6	161	18	1,027	--	30	--	9	--	25
FY 1981 Base	6	175	18	1,065	--	--	--	480	--	25
FY 1982 Estimate	8	349	21	1,312	--	--	--	--	--	25

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	6	2	8
Number of Other Positions.....	0	2	2
11 Personnel Compensation.....	136	67	203
12 Personnel Benefits.....	13	7	20
21 Travel & Trans. of Persons.....	4	3	7
22 Transportation of Things.....	17	77	94
23 Rent, Comm. & Utilities.....	5		5
25 Other Services.....		20	20
Total	175	174	349

Analysis of Increase

Necessary Pay.....	2
Inflation.....	8
Program Funds.....	164

ABSTRACT - The Smithsonian Institution Traveling Exhibition Service (SITES) provides a national service by offering carefully selected, well designed and widely circulated traveling exhibitions covering a wide range of subject matter in the fields of art, design, technology, history, science, anthropology, education, and the environment. These include exhibitions from the Smithsonian's collections as well as those organized and loaned by numerous government agencies, individuals and organizations throughout the world. For FY 1982, an increase of two positions and \$164,000 is requested consisting of: (1) two positions and \$51,000 for an exhibition coordinator and an educational specialist which will enable SITES to offer more exhibitions including some from abroad, as well as to add to the educational materials that accompany the exhibitions; (2) \$67,000 to help offset the higher cost of shipping; (3) \$26,000 for needed clerical assistance to relieve the heavy administrative workload of the office; and (4) \$20,000 to computerize a variety of administrative activities. Necessary pay of \$2,000 is required for existing staff and an amount of \$8,000 is sought to compensate for the effects of inflation in non-salary areas of expense.

PROGRAM - SITES is currently in its 29th year of providing exhibition services to qualifying organizations in the United States. The exhibitions are complete programs accompanied by curatorial and registrarial information, handling instructions, technical information, public affairs materials, suggested educational activities, and in many instances, catalogues. The Service is the largest of its kind in the United States, and the only one which provides a broad program encompassing the diverse disciplines and subject matter represented in the collections and museums of the Smithsonian Institution.

SITES exhibitions are seen by millions of people each year through their local museums, galleries, and educational and cultural institutions. SITES also has become an essential element in the program and resource planning of thousands of exhibition-sponsoring organizations. Organizations benefit directly from traveling exhibitions by being able to book a traveling exhibition for a fraction of the cost that would be required were they to develop the exhibition themselves. The Federal support received by SITES allows exhibitions to be developed, toured and provided to these organizations at affordable costs. During FY 1980, an average of 170 exhibitions was on tour at any given time. News of these exhibitions reached the over 7,000 institutions on the SITES mailing list through the annual catalogue, the quarterly newsletter and special mailings prepared by SITES. During FY 1980, 27 new exhibitions joined SITES program, of which 22 contained original objects, and five were panel exhibitions. Also in FY 1980, there were a total of approximately 700 bookings of SITES exhibitions, attended by an estimated seven million persons in 48 states, in addition to Brazil, Panama, Canada, and Mexico. Schedulings of SITES exhibitions in FY 1981 are expected to exceed 700. During FY 1981, it is expected that the number of exhibitions on tour again will average 170.

SITES is an authority on the complex multifaceted operations of traveling exhibitions and provides continuous professional assistance to the museum field on a variety of topics including shipping and insurance contract matters, installation techniques, upgrading of space for exhibitions, and security.

The FY 1981 Federal base of six positions and \$175,000 represents approximately 10 percent of SITES operating budget. The remainder is either self-generated through fees charged for the service, provided by nonappropriated Trust funds of the Institution, or by grants and contracts. Federal assistance received by SITES is essential for achieving one of the goals of the Traveling Exhibition Service, which is to assure that fees paid for exhibitions remain within the budgetary reach of participating museums and galleries. Currently, SITES is able to maintain a list of exhibitions that rent for \$300 or less. This target makes it possible for hundreds of potential exhibitors with limited financial resources to present exhibitions of high quality. It is precisely those organizations with limited financial resources that benefit most from Smithsonian traveling exhibitions, for they generally lack their own exhibition design and production capabilities. The growth in the number of these smaller organizations is astounding. SITES receives an average of 200 requests for information each month; of that number, about 30 are added to the SITES mailing list. With the growing number of organizations drawing on SITES resources, and with inflation placing a severe burden on museums throughout the country, the need for well developed, low cost exhibitions is more necessary than ever.

New Exhibitions Toured by SITES

Based on Smithsonian Collections:

FY 1981: "Artists and Space Flight;" "Collages from the Hirshhorn Museum and Sculpture Garden;" "Jupiter and Its Moons;" "Western Views and Eastern Visions;" "Photographs from the National Portrait Gallery;" "Innovative Furniture in America;" "Our Beautiful Earth;" "Loose the Mighty Power;" and "Beauties of the Coral Reef."

FY 1982: "The Space Shuttle;" "Printing for the Blind;" "Seasons Greetings Holiday Gift Cards;" "The Shopping Bag;" "Urban Open Spaces;" "Edward Curtis: A New Look;" and "The Nelson Collection: Alaskan Exhibit."

Based on Other Sources:

FY 1981: "Invisible Light;" "American Drawings III;" "Aquaculture;" "Berlin Porcelain;" "Black Landmarks;" "A Collector's Eye: The Olga Hirshhorn Collection;" "Impressions Expressions;" "A Feast of Color: Corpus Christi Dance Costumes of Ecuador;" "The Graphic Art of Mary Cassatt;" "Mithila Paintings;" "Image of the Black in Western Art;" "Images of Labor;" "Irish Silver;" "The Renaissance of Islam;" "Transformed Houses;" "The Photographer's Hand;" "We'll Never Turn Back;" "What If You Couldn't;" and "Good as Gold: Contemporary American Jewelry in Nontraditional Materials."

FY 1982: "Ban Chiang;" "Australian Ceramics;" "Medieval Bulgarian Jewelry;" "American Impressionism;" "19th Century Spanish Paintings;" "Quicksilver Galleons;" "Solar Energy;" "Man and His Body;" "Contemporary German Textiles;" "Of Time and Place: American Figurative Art from the Corcoran Gallery;" "Venini Glass;" "Ethiopia: The Christian Art of an African Nation;" and "Native Harvest."

The following bookings were scheduled for FY 1980:

Alabama	11	Missouri	25
Alaska	5	Mississippi	2
Arizona	6	Montana	6
Arkansas	5	Nebraska	5
California	39	Nevada	4
Colorado	20	New Hampshire	3
Connecticut	5	New Jersey	18
Delaware	3	New Mexico	5
District of Columbia	17	New York	41
Florida	38	North Carolina	14
Georgia	20	Ohio	28
Hawaii	1	Oklahoma	3
Idaho	3	Oregon	9
Illinois	47	Pennsylvania	27
Iowa	13	South Carolina	11
Indiana	13	South Dakota	6
Kansas	15	Tennessee	25
Kentucky	7	Texas	42
Louisiana	8	Utah	8
Maine	1	Vermont	2
Maryland	15	Virginia	13
Massachusetts	20	Washington	13
Michigan	20	West Virginia	13
Minnesota	16	Wisconsin	24
		Wyoming	9

Total: 370 cities served in 48 states and in the District of Columbia.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, a total increase of two positions and \$164,000 is requested. The proposed increase will be used to enable SITES to improve its exhibition program by offering more exhibitions, including some from abroad, and by adding to the educational materials that accompany the exhibitions; to help offset significantly higher shipping costs; and to provide needed clerical assistance.

Exhibitions and Education (\$51,000) - Two positions and \$51,000 are sought for an exhibition coordinator and an education specialist and related expenses.

The proposed exhibition coordinator position will be used mainly to permit SITES to offer additional exhibitions based on Smithsonian collections as well as to seek out additional international exhibitions for tour in the United States at reasonable cost. Presently, SITES has a small international program which plans interesting exhibitions from foreign countries for tour in United States museums. With the addition of an exhibition coordinator for the international program, SITES will be able to review and evaluate foreign exhibitions directly and initiate negotiations for the possible inclusion of the more important of these in the traveling exhibition program. Hopefully, a number of these exhibitions can be toured in the United States, thus providing millions of people the opportunity to view additional aspects of the culture of foreign nations. Additionally, the new exhibition coordinator will travel to locations of SITES exhibitions to assure that they are properly set up and are in good condition.

SITES currently provides a quality educational service to complement many of its exhibitions. However, with an average of 170 exhibitions on tour at any given time, and only one full-time education specialist, SITES presently is able to provide special educational services for only a few of the exhibitions it circulates. The proposed new education specialist is needed to produce additional educational publications with a focus on special programming, including multilingual interpretative programs for international exhibitions and programs for the disabled such as hands-on exhibition experiences, musical concerts, mime, and a variety of workshops. The education specialist also will work in close cooperation with museum educators in museums around the country where SITES exhibitions are shown.

Shipping (\$67,000) - The dramatically increasing cost of shipping exhibitions is one of the highest and most unpredictable variables in the SITES operating budget. SITES defrays the cost of the shipment of each exhibition to the first exhibitor and then prorates the cost of further shipments among all museums receiving that exhibition. When possible, tours of exhibitions are arranged to prevent backtracking to minimize shipping costs.

In FY 1980, shipping costs totaled approximately \$321,000: \$242,000 of these costs were paid by the exhibitors as part of the rental fee, \$10,000 were provided by Federal grants and \$75,000 absorbed directly by SITES. With the effects of inflation being felt severely by museums, it is imperative that the fees for the rental of exhibitions toured by the Smithsonian Institution Traveling Exhibition Service be kept as reasonable as possible. The proposed increase of \$67,000 in shipping will help SITES to absorb rapidly escalating shipping costs and avoid passing them on to already financially burdened museums and cultural organizations.

Clerical Support (\$26,000) - An amount of \$26,000 is sought for two temporary clerical positions to help with the heavy workload of the office. The additional clerical assistance will relieve the professional staff of such clerical burdens as typing, filing, mass mailings, and record keeping, and thereby enable them to function more efficiently in areas where attention to detail inscheduling, producing, and registering is very important.

Computerization (\$20,000) - SITES presently is working toward computerization of a variety of administrative activities. Among these are the scheduling of exhibitions, the scheduling of shipping, and the development of analyses of shipping patterns that ultimately will result in lowered shipping costs. Such computerization eventually will allow the registration department to handle an even larger number of exhibitions and increase overall efficiency. Funds of \$20,000 are sought to continue the computerization projects and will be used for the purchase of computer time.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived primarily from rental fees collected from museums, universities, historical societies and other users of the traveling exhibitions. These funds, supplemented by an allotment, support 18 positions in FY 1981 (21 projected in FY 1982) and virtually all exhibition development costs including publications, materials, outside specialists and contractual services. In FY 1980, funds provided from the Institution's Collections Acquisition, Scholarly Studies and Education Program (\$30,000) were used to develop and produce educational materials to accompany the traveling exhibitions. Expenditures under this Program have not been recorded for FY 1981. This explains the variance in totals shown between FY 1980, FY 1981, and FY 1982. SITES can expect to receive and spend funds made available through this Program in FY 1981 and in FY 1982.

Restricted Funds - Funds are provided in the form of gifts and foundation grants from individuals, organizations and corporations for specific purposes. Generally these grants provide support for specific exhibitions. For example, in FY 1980 a grant was received from United Technologies for the "Renaissance of Islam" exhibition, (estimated expenditures in FY 1981 of \$180,000); and in FY 1981 a grant of \$75,000 has been received from the Glenmede Foundation for the support of the "Ban Chiang" exhibition. No additional funds are anticipated for FY 1982.

Federal Grants and Contracts - The funding in this category comes from various Federal agencies for the development and touring of specific exhibitions. In FY 1980, a grant of \$24,000 from the United States Geological Survey was used for exhibition preparation and catalogues to accompany the exhibition "West Comes East."

SMITHSONIAN ARCHIVES

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	13	367	2	42	--	1	--	--	--	--
FY 1981 Base	13	385	2	45	--	--	--	--	--	--
FY 1982 Estimate	13	424	2	48	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	13	0	13
Number of Other Positions.....	2	1	3
11 Personnel Compensation.....	322	15	337
12 Personnel Benefits.....	31	2	33
21 Travel & Trans. of Persons.....	3	1	4
22 Transportation of Things.....	1		1
24 Printing and Reproduction.....	1	1	2
25 Other Services.....	10	11	21
26 Supplies and Materials.....	11	3	14
31 Equipment.....	6	6	12
Total	385	39	424

Analysis of Increase

Necessary Pay.....	7
Inflation.....	4
Program Funds.....	28

ABSTRACT - The Smithsonian Archives provides archival and records management services to support the research, collections management, educational, and administrative functions of the Institution. In FY 1982, an increase of \$28,000 is requested, consisting of: (1) \$16,000 to accelerate the microfilming of documents; (2) \$7,000 to automate access to the heavily used files of the Office of the Secretary; and (3) \$5,000 to purchase additional compact shelving. An amount of \$7,000 is required for necessary pay for existing staff and an amount of \$4,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Smithsonian Archives is the official memory of the Institution and an important research resource for historians of American science and culture. The Archives is responsible for a central research

repository, an off-Mall records storage center, centralized information systems for archival documentation dispersed throughout the Institution, and records management of all official records. The goal of the Archives is to preserve official records, specimen related records, and the papers of distinguished research staff, and to provide access to these for administrators, scholars, and scientists.

The Archives accessioned some 2,150,000 documents in FY 1980, bringing total archival holdings to 15,150,000 documents. Currently some 31 percent of the approximately 48,000,000 documents that comprise the archival resources of the Institution are in the physical custody of the Archives. An additional 48 percent dispersed throughout the Institution is accessible through the Archives' central information systems. The remaining 21 percent has not been brought under archival control. During FY 1981, an internal program review and staff reorganization were accomplished with the goal of producing comprehensive archival and records management programs in all Smithsonian bureaus by 1985. Substantial progress was made in several major bureaus during FY 1980. In the National Museum of Natural History/Museum of Man, 254,000 documents were accessioned and 76,000 documents were processed for research use, and in the National Museum of American History, 458,000 documents were accessioned and 100,000 documents were processed. An archival and records management program was established at the Cooper-Hewitt Museum and 198,000 documents were transferred to the Archives. A records survey of the Smithsonian Astrophysical Observatory (SAO) was begun in FY 1980, with 461,000 documents transferred to the Archives and 172,000 documents processed. Control of the SAO records will necessitate a study of archival retention of machine readable records in FY 1982. An archival program was begun in the Hirshhorn Museum and Sculpture Garden and records transfers are planned for FY 1981.

In FY 1980, the Archives staff responded to 814 reference requests, 279 of which were from Smithsonian administrators and 535 from Smithsonian and outside scholars. In addition, 267 retrievals were made from the (former) United States National Museum accession records. The success of the Archives program in microfilming these original accession records and the increased use of this microfilm by bureau registrars have relieved the Archives of having to respond directly to many reference and retrieval requests for accession information. Staff time saved has been applied to other pressing archival functions. Progress continues on microfilming of these records, with a total of 185,000 images to be processed per year in FY 1980 and FY 1981.

The records center held some 1,788,000 documents in cost-efficient storage during FY 1980. Approximately 112,000 documents were discarded by the Smithsonian Credit Union, the Accounting Division, the Office of Protection Services, and the Office of Personnel Administration as a result of disposition schedules established by the Archives. Approximately 144,000 documents are scheduled for disposition in FY 1981, and 164,000 in FY 1982.

In FY 1981, the Archives will establish an archival and records management program for the Chesapeake Bay Center for Environmental Studies; will begin a program in the National Air and Space Museum; and finally, will eliminate the processing backlog of records from the National Museum of Natural History/Museum of Man.

During FY 1982, major efforts are planned to strengthen the archival program in the following bureaus (projected year of completion of archival work noted in parentheses): the Smithsonian Astrophysical Observatory (1985); the National Zoological Park (1983); the Smithsonian Tropical Research Institute (1983); the Hirshhorn Museum and Sculpture Garden (1985); the National Air and Space Museum (1985); the Anacostia Neighborhood Museum (1983); the Freer Gallery

of Art (1982); the Treasurer's Office (1982); the Accounting Division (1982); the Office of Programming and Budget (1982); and the Office of the Assistant Secretary for Museum Programs (1983). Also in FY 1982, the Archives plans to devote special attention to studying the problems of appraisal, storage, and access to special media, especially computerized administrative and scientific data banks, photograph, and motion pictures; improving the procedure for solicitation of staff papers in the National Museum of Natural History/Museum of Man and the National Museum of American History; reducing the processing backlog by 400,000 documents; and microfilming 460,000 images for preservation and space reduction purposes.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of \$28,000 is requested for collections management purposes. The funds will be used to accelerate the Archives' microfilming program; to automate access to card indexes of the Office of the Secretary; and to purchase additional compact shelving.

The Archives annually microfilms approximately 185,000 essential documents for preservation purposes, to provide safety copies and reduce the need to handle the original documents. In FY 1982, the microfilm program will be expanded to make microfilm copies of 275,000 additional documents of the type that can be discarded. The microfilming program will therefore grow in FY 1982 to 460,000 documents. Microfilming documents has three distinct advantages: filming assures preservation of the information; once filmed, certain types of routine records generally can be discarded, thereby saving space; and documents placed on film are more readily accessible. An amount of \$16,000 is sought for a camera operator who will be hired on a temporary appointment and for related support costs to accelerate the microfilm program. An additional amount of \$7,000 is requested for contractual services for the key punching of card indexes of the files of the Office of the Secretary into the Archives' information system. These card indexes are used heavily by the Office of the Secretary and by the Archives for administrative and scholarly research. By automating them they will become easily accessible. A further amount of \$5,000 is sought to expand purchases of compact shelving required in order to keep abreast of accessions as bureau coverage is expanded in FY 1982. Approximately 1,400,000 documents are expected to be accessioned in FY 1982. Compact movable shelving provides storage for almost twice as many documents as conventional shelving.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided in the form of an annual allotment to cover the salaries of two archivists and various support costs.

the standards set forth in the annual Guidelines for the grant programs. The National Museum Act Advisory Council, appointed by the Smithsonian Institution, advises and assists the Secretary in determining priorities and assessing the quality of projects for which support is requested under the Act. The membership of the Advisory Council encompasses the principal museum disciplines--art, science and history--and broadly represents all regions of the United States. Only those proposals which demonstrate thought, planning, careful structure, and sound administration are recommended for support by the Advisory Council.

Since the Program's inception, grants have been provided for fellowships, internships, seminars and workshops, and travel study projects, many of them concentrating on studies in museum conservation. The Act has enabled professional museum organizations and associations to offer improved technical services to museums and their employees and has contributed to studies and research resulting in more effective museum performance and more advanced conservation practices. In FY 1980, 156 applications for support were received and reviewed, and 60 grants totaling \$711,000 were made. Of these, 33, for a total of \$349,000, were related to museum conservation training and research activities. An additional \$8,000 was used to fund, through a contract with a professional nonprofit organization, a special compilation of technical data on fumigants used in the preservation of museum collections.

Following the first grant applications submission deadline in FY 1981, 134 applications requesting support for professional training were reviewed at the November 1980 Advisory Council meeting and 42 grants totaling \$495,000 were awarded. Of these, four were designated for seminar/workshop activities, 16 for conservation studies, 10 for museum internship programs, six for graduate/professional museum education and training, and six for fellowships in museum practices. Among these were 27 conservation related projects which were funded for a total of \$274,000. An additional 45 applications, submitted under the professional assistance, special studies and research programs, will be reviewed in March 1981.

In order to coordinate efforts and to meet, insofar as possible, the increasingly complex needs of museums, the staffs of the National Museum Act and of the Office of the Assistant Secretary for Museum Programs work closely with individuals, museums, educational institutions, and professional organizations involved in museum training and research activities. The NMA also consults regularly with those who administer Federal programs which assist museums and it participates in the deliberations and activities of the Working Group on Museum Policy on the Federal Council on the Arts and Humanities.

The National Museum Act was created to encourage the improvement of museums by providing training opportunities for museum professionals and by assisting in the resolution of museum problems through special studies and research activities. Persons who have been trained in museum practices and as conservators, with the support of the National Museum Act, are now making important contributions to the profession. The types of research supported by the National Museum Act in museology and conservation are unique and have not been encouraged elsewhere. This research has produced many advances, not merely in museum management practices but in innovative technologies for the conservation of collections. Although the resources available to the National Museum Act have been modest, the results of its grant programs have made a major impact on the quality of the services that museums provide. The NMA remains as the only form of support specializing in these specific areas for museums.

SMITHSONIAN INSTITUTION SPECIAL PROGRAMS

Summary and Highlights of Proposed Increases

These special programs make use of total Institutional resources, including both staff research competence and the collections, and encourage interbureau or interdisciplinary cooperation. They produce outstanding scholarship, presentations and additional opportunities for public education. Special programs include:

--the American Studies and Folklife Programs which coordinate the study and presentation of the material aspects of American civilization and the traditional folk cultures of the United States. These Programs provide focal points for these areas dispersed in several bureaus. For FY 1982, a program increase of \$36,000 is requested for the Folklife Programs of which \$25,000 will be used in combination with outside funds to extend the annual Festival to a two week long format, and \$11,000 will assist in the publication of five monograph/films as part of the Folklife Programs' ongoing publishing efforts.

--the International Environmental Science Program (IESP) which coordinates the special capabilities of the Smithsonian's science bureaus to study complex biological processes to better understand them so that solutions to national and international ecological problems can be determined. For FY 1982, a program increase of \$100,000 is sought. Of this amount, \$80,000 will be used to initiate an ecological survey in the Western Sichuan Province of China on the giant panda, a subject of special interest to the Smithsonian. The remaining \$20,000 is essential to provide an adequate base of travel funds for scientists engaged in field environmental studies.

--the Academic and Educational Programs offices which conduct interdisciplinary seminar series, coordinate educational programs for students at the elementary and secondary school levels, provide opportunities for outstanding pre- and post-doctoral investigators to work at the Institution using staff and collections resources, and administer the Special Foreign Currency Program of research grants. For FY 1982, a program increase of \$25,000 is requested for the Office of Elementary and Secondary Education to develop additional educational articles and to expand distribution of two publications, Art to Zoo and Let's Go, both of which reach a large audience of educators and school children.

--the Collections Management/Inventory Program which represents a comprehensive effort to achieve full inventory control of the Smithsonian collections. This centralized Program has been established as a supplement to individual museum's continuing programs to assure effective coordination of inventory work and to address the most urgent needs. A program increase of \$200,000 is sought for FY 1982 to accelerate further the inventories that are under way particularly those of the National Museum of Natural History/Museum of Man and the National Museum of American History.

--the Major Exhibition Program established in FY 1981 with an appropriation of \$750,000 in order to reinstitute centralized support of major history and art exhibitions which cannot be funded within the base resources of an individual museum. For FY 1982, an amount of \$1,000,000 is requested to continue this Program.

--the resources provided for Museum Support Center Equipment. This request is included in the Special Programs section in order to emphasize that resources for essential equipment items will be sought over a fixed time period and that these additional resources will not be incorporated into the permanent base resources of any organizational unit. For FY 1982, a total amount of \$4,495,000 (an increase of \$1,784,000) is requested for this program to continue purchase of equipment needed for the Conservation Analytical Laboratory, for collections storage, for the Center's security and protection system, and for part of the laboratory and other furnishings for the National Museum of Natural History/Museum of Man, the National Museum of American History, the Libraries and the Office of Printing of Photographic Services.

--the Research Awards Program, which is a competitive program that provides essential support costs only for new and innovative short-term research projects initiated by Smithsonian staff scientists. An amount of \$300,000 is requested for FY 1982 to reestablish this Program.

--the Native American Program, formerly described under the Office of Museum Programs, which draws upon the resources of the Smithsonian Institution to provide various forms of technical assistance to Indian, Eskimo and Aleut groups. Responding to the needs of the Native American museum community, the Institution wishes to extend in a major way the scope of this Program. Consequently, for FY 1982, an increase of \$300,000 is sought.

AMERICAN STUDIES AND FOLKLIFE PROGRAMS

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	4	447	11	405	--	54	--	--	--	102
FY 1981 Base	5	534	11	467	--	14	--	129	--	150
FY 1982 Estimate	5	591	11	480	--	21	--	50	--	150

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	5	0	5
Number of Other Positions.....	22	2	24
11 Personnel Compensation.....	277	13	290
12 Personnel Benefits.....	27	1	28
21 Travel & Trans. of Persons.....	11		11
22 Transportation of Things.....	2	1	3
23 Rent, Comm. & Utilities.....	12	2	14
24 Printing and Reproduction.....	49	12	61
25 Other Services.....	115	15	130
26 Supplies and Materials.....	35	8	43
31 Equipment.....	5	5	10
42 Insur. Claims & Indem.....	1		1
Total	534	57	591

Analysis of Increase

Necessary Pay.....	5
Inflation.....	16
Program Funds.....	36

ABSTRACT - The Offices of American Studies and Folklife Programs conduct research on the material aspects of American civilization and the traditional folk cultures of the United States, and numbers among their activities the production of the Festival of American Folklife which has become the largest annual cultural event in the Nation's Capital. For FY 1982, an increase of \$36,000 is sought for the Festival and related publications. An amount of \$5,000 is required for necessary pay for existing staff and an amount of \$16,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Office of American Studies sponsors a graduate program in American material culture in cooperation with various universities in and out of the Washington, D. C. area. Four or five seminars a year are offered for academic credit and are taught by the Director of the program and by cooperating scholars. In addition to the regular American Studies courses offered to graduates, a number of folklife courses have been added to the offerings in the past two years, taught by members of the Folklife Unit of the Smithsonian and by folklife personnel outside the Institution.

The Office of Folklife Programs aims toward the preservation of the diverse cultural traditions of this country by conducting active programs of research, publication, archival documentation, and by giving the objects, performances and performers of folk traditions the respectful and understanding recognition they deserve. This effort entails the presentation of living folk traditions in the context of the Smithsonian. Since its inception, the Office of Folklife Programs has directed its attention to the identification and study of these folk traditions and to the development of methods for presenting them in a national setting to general audiences. As an academically oriented program, the Office of Folklife Programs also pursues university teaching, research into foreign folklife traditions that shed light on cultures that have taken root in this country and publishing of documentary and analytic studies.

The staff of the Office of Folklife Programs planned and supervised the research and presentation of the 14th Annual Festival of American Folklife held on the National Mall from October 8 through 13, 1980. Highlights included a Caribbean Carnival with participants from East Coast cities; presentations of the traditional music, dance and crafts of both Finnish-Americans from the Iron Range of Minnesota and recent immigrants from Southeast Asia; and the building of a southern dog trot house which demonstrated the ways in which builders have constructed houses in the South for the past 200 years to adapt to local climatic conditions.

During the week prior to the 1980 Festival, the Office of Folklife Programs organized and presented craft demonstrations in connection with the opening of Webfoots and Bunchgrasses: Folk Art of the Oregon Country, which was held at the Renwick Gallery from October 3, 1980 to February 1, 1981.

The Office of Folklife Programs is involved in organizing two major exhibitions at the Smithsonian in FY 1981 and FY 1982. As a result of an initiative of the Secretary's Folklife Advisory Council, planning has been brought to an advanced stage for a year-long exhibition of folk art at the Renwick Gallery. Funds for this exhibition are discussed under the Major Exhibition Program in the Special Program section of this budget. This exhibition is scheduled to open in December 1981. With a theme of "Celebration," 500 to 700 objects (95 percent of which have never been placed on exhibit) will be drawn from the collections of seven Smithsonian museums to fill all seven of the Renwick galleries. The objects will be chosen to demonstrate the ways in which different societies celebrate the important cycles and milestones in the lives of their people. In FY 1982, within the context of the exhibition, the Folklife Program will create traditional celebratory events for three days in each of seven months (March 1982 - September 1982). A Smithsonian research associate, who is an eminent anthropologist, is serving as guest curator for the exhibition. A book on the substance and symbols in world celebrations will be published in conjunction with the exhibition.

Processing of film footage from the 1976 Bicentennial Festival of American Folklife was completed in July 1980. This archival resource, consisting of 210,000 feet of film and accompanying sound track covering 12 cultures in the United States and abroad, was logged and cross-indexed by culture. In addition, the entire body of footage was synchronized with its sound track. This project has been carried out through an arrangement with an outside film production company.

Work began in the summer of 1979 on a project to preserve more than 3,500 wax cylinder recordings at the Library of Congress, nearly all of which contain Native American songs and stories recorded prior to 1930. This project involves the transfer of fragile cylinder recordings to magnetic tape, the preparation of accompanying written material and the development of suitable means for the dissemination of these historic cultural documents. The project has been planned as a three-year endeavor continuing into 1982 and it involves the cooperative efforts of the National Endowment for the Arts, the Smithsonian Office of Folklife Programs, the Bureau of Indian Affairs, and the American Folklife Center at the Library of Congress.

As part of the Folklife Programs' ongoing publishing effort, several monographs are scheduled for completion in FY 1981. Topics include the general phenomena of American ethnicity, occupational culture, street criers, and the Northern Paiutes of west central Nevada. In addition, arrangements have been made with Pennsylvania State University, the Center for Southern Folklore and the Smithsonian's Office of Museum Programs to distribute the products of the monograph/film series discussed below.

EXPLANATION OF PROGRAM INCREASE - For FY 1982 an increase of \$36,000 is requested for Festival of American Folklife production costs, and to support the research, publication and national outreach efforts which contribute to and arise out of the annual Festival.

In response to public encouragement, the annual Festival will be returned in 1981 from its present October presentation to the July 4th holiday period and extended to a two-week-long format. The Festival is supported by a combination of outside gifts and grants, the Institution's nonappropriated Trust funds, and Federal appropriations. As in the past, extensive fund raising efforts will continue, but the results of these are always uncertain. The Institution's allocation of \$180,000 of nonappropriated Trust funds and a Federal base of \$200,000 are not sufficient to extend the annual Festival to the two-week format. An additional amount of \$25,000 is requested, which in combination with successful outside fund raising, will help make secure this second week of programming as a permanent feature in successive years of Festivals.

Arising out of Festival research and fieldwork activities, annotated films and monographs represent an important contribution toward the greater understanding of the wealth of American folk culture. Additional publication funds of \$11,000 are requested to assist in the production of five monograph/films on traditional Ojibwa dance drums, traditional marionette puppeteers, Finnish-American winter festivals, the genre of traditional Anglo-American ballads, and the folklore of firefighters. Base funds of \$49,000 are available presently to support the Folklife Programs' ongoing publication efforts. Future year plans for these same funds include publications on traditional medicine shows, the observations and reminiscences of members of the Brotherhood of Sleeping Car Porters, a family folklore book, and a biography of the bluegrass musician Bill Monroe.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided primarily from allotments, including those from the Institution's Collections Acquisition, Scholarly Studies and Education Program. Funds also are provided from tuition reimbursements from universities for students participating in the various training programs and from concession sales relating to the Folklife Festival. In FY 1980, funds from the Collections Acquisition, Scholarly Studies and Education Program (\$38,000) were used to provide support for the World Puppetry Festival held in June in Washington, D. C. In addition in FY 1981, funds provided will be used to support the annual Festival of American Folklife (\$100,000); the exhibition "Celebration" to be held in the Renwick Gallery (\$125,000); and to pay the salary, benefits and other costs of 11 employees of the Folklife Programs approximately \$80,000 of which is attributable to the annual festival.

Restricted Funds - Funds are provided in the form of individual gifts and grants from private foundations and corporations and are used in support of specific exhibits in the Festival of American Folklife. For example in FY 1981, funds are expected to be raised from outside contributions to support the Indian exhibit entitled "Aditi: A Celebration of Life" (\$50,000).

Federal Grants and Contracts - Funds have been provided from various Federal agencies for support of exhibitions and performances at the annual Festival of American Folklife. For example in FY 1980, the Department of Energy provided funds for a continuing exhibition project on folk style energy efficient housing to be shown at the FY 1981 Festival (estimated expenditures of \$75,000 in FY 1981). In addition, the Department of Agriculture provided funds (\$75,000) which will be expended in FY 1980 and FY 1981, to highlight southern style community activities such as food preparation and preservation and regional music.

INTERNATIONAL ENVIRONMENTAL SCIENCE PROGRAM

(Dollars in thousands)

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
			FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	2	408	--	--	--	--	--	--	--	--
FY 1981 Base	2	502	--	--	--	--	--	--	--	--
FY 1982 Estimate	2	626	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	2	0	2
Number of Other Positions.....	11	0	11
11 Personnel Compensation.....	167	3	170
12 Personnel Benefits.....	18		18
21 Travel & Trans. of Persons.....	35	53	88
22 Transportation of Things.....	1	6	7
23 Rent, Comm. & Utilities.....	4		4
24 Printing and Reproduction.....	4		4
25 Other Services.....	219	24	243
26 Supplies and Materials.....	30	24	54
31 Equipment.....	24	14	38
Total	502	124	626

Analysis of Increase

Necessary Pay.....	3
Inflation.....	21
Program Funds.....	100

ABSTRACT - The International Environmental Science Program (IESP) coordinates the special capabilities of the Smithsonian's Science bureaus to study ecosystems subject to human disturbance in order to evaluate and ultimately predict the consequences of these human activities. The International Environmental Science Program was established as a multibureau, interdisciplinary effort to monitor ecosystems at two permanent Smithsonian research facilities (the Tropical Research Institute in Panama and the Chesapeake Bay Center for Environmental Studies in Maryland) and at several non-permanent sites in the tropics and subtropics. For FY 1982, an increase of \$100,000 is requested to initiate an ecological survey in Western Sichuan Province of China on the giant panda and to provide increased travel support for scientists engaged in field

environmental studies. (The amount of \$50,000 appropriated in FY 1981 for data processing equipment will be used in FY 1982 and in future years for necessary software packages and additional peripheral data equipment.) Necessary pay in the amount of \$3,000 is required for existing staff and an amount of \$21,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Smithsonian has engaged in environmental research abroad for many years because of its expertise in international environmental research and its capability to sustain scientific programs on a long-term basis. The Program has developed successfully a team oriented approach to research in order to make the maximum use of available resources. Recently increased national attention has been focused on the need to establish additional sites for long-term ecological monitoring, such as those which the Smithsonian Institution has operated through the International Environmental Science Program at the Chesapeake Bay Center for Environmental Studies (CBCES) in Maryland and the Smithsonian Tropical Research Institute (STRI) in Panama. Studies by both the Council on Environmental Quality and the National Academy of Sciences have called for additional monitoring programs in the tropic and temperate zones to further fundamental knowledge of these environments. Personnel from the International Environmental Science Program, as well as the data generated from the Program, have been and will be of use to policy makers and scientists in establishing these new programs. The accumulation of eight years of data will serve to complement and avoid duplication of effort as these new monitoring systems are developed.

Staff resources consists of specialists from the Smithsonian's science bureaus and occasionally scientists from other institutions. These scientists measure the two major stresses on the ecosystems being studied; those from meteorological factors and those from activities directly induced by humans. Examples of meteorological stresses include light quality and variations in temperature, moisture, wind and tides. Examples of stress induced by humans include the effects of land runoff application, fertilization, and land clearing.

Intensive work has been undertaken at several temporary tropical locations aimed at understanding species' diversity. Studies in Nepal on the tiger and its prey have yielded significant information on these species' activities which will aid park planners in Nepal and elsewhere in the management of biological reserves to ensure species' survival. In Venezuela, research on natural populations of rodents adjacent to newly developed farm land yielded results which assisted farmers in completely revising their control techniques for these populations. In Brazil, studies are providing valuable information on the extent of environmental degradation in the Amazon region, an area which is subject to tropical deforestation and biotic impoverishment. At the Program's permanent site on Barro Colorado Island in the Republic of Panama, studies are indicating that the tropics are not, as commonly thought, an area of constant high productivity. Rather there is a great seasonality in the growth of flowers and crops. These results have great importance to the population levels of animals in the tropics and the abundance of animals harvested for subsistence by indigenous populations. At the Program's other permanent site on the Rhode River, studies are aimed at distinguishing natural fluctuations in biological communities from those brought about by man's activities. A recent finding of International Environmental Science Program investigators was that annual fluctuations in the abundance of two commercially important species of fish, white and yellow perch, appear to be associated with the timing and size of spring floods, rather than with pollution factors or the amount of fish harvested in previous years.

Publications resulting from this program include a monograph on the behavior and social dynamics of the tiger, a major book on the neotropical mammals of Venezuela, and a volume summarizing the state of knowledge on the Amazon region. A major publication summarizing the tropical research work of the Environmental Science Program since its inception has been received by the SI Press and arrangements are being made for its publication. A major volume summarizing the Program's results on chemical and physical parameters from the temperate site also will be submitted for publication this year.

In late FY 1978, a review of the International Environmental Science Program at the Panama and Chesapeake Bay sites was conducted by a committee of distinguished outside scientists familiar with long-term ecological monitoring. Their report, issued in FY 1979, recommended that a detailed plan be developed for the next five-year phase of the program. This five-year plan calls for uniform collection of data on such environmental phenomena as rainfall, temperature, sunlight and land runoff on such biological activities as seasonal growth of plants, year-to-year changes in insect activity, etc. The review committee strongly recommended that the Program at both study sites take the necessary steps to upgrade existing equipment and provide for new, modern systems for data acquisition and processing. The committee also recommended that scientists spend substantial time at their field sites.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of \$100,000 is requested to initiate an interdisciplinary, ecological study in Western Sichuan Province of China focusing on the giant panda and its ecosystem and to provide for increased travel for scientists engaged in other IESP field environmental studies.

Of the \$100,000 being sought, funds of \$80,000 are requested to initiate an ecological survey in a mountain reserve in Western Sichuan Province of China in cooperation with the People's Republic of China. Special emphasis will be placed on the natural history of the giant panda. The proposed study, long in the planning stage because of the Smithsonian's interest in the ecology of the panda, was approved in principle by the Chinese after a Smithsonian delegation visit to Beijing in the fall of 1979. The Chinese Association for Science and Technology has issued an invitation to the Smithsonian to undertake this work in the fall of 1981. The planned study will examine the role of the giant panda in its unique ecosystem by using a broad-based, team approach which emphasizes the study of interrelationships of the local fauna and flora. The study of the giant panda will include the use of radio telemetry techniques to permit an analysis of movement patterns, activity cycles, habitat use and home range size. Such a team approach has been successfully developed at other IESP temporary sites in Nepal and Venezuela. Although captive studies of giant panda behavior have been conducted, and short-term studies of its ecology accomplished, a detailed study of the natural history of this species or the ecosystem of which it is a part has yet to be executed. The study will be undertaken by scientists from the National Zoological Park and the National Museum of Natural History/Museum of Man in collaboration with Chinese scholars. The results should provide original data on the numbers, density and interactions of key vertebrate and invertebrate species and the role of bamboo, the main food source of the panda, in a unique mountain ecosystem. The data collected will permit long-term management decisions to be made in the area of conservation, especially of habitats and the several endangered species unique to this region. The study also will allow surveys within designated preserves to be continued. To carry out the study, an amount of \$30,000 will cover the international and internal travel costs of Smithsonian specialists in the areas of primatology, entomology, botany, mammalogy and reproductive behavior who will participate in the research; \$25,000 will be used to purchase specially designed field supplies, such as live animal baits, batteries and nets, drugs and capture equipment to

immobilize animals for study, and specially designed radiotelemetry equipment which will aid scientists in tracking pandas and other animals in the rugged mountain terrain; \$15,000 will pay the costs of local field staff who will assist in the research and defray the costs of transportation of equipment to and within China; and \$10,000 will be applied to the purchase of materials to erect temporary buildings for housing field staff and scientists, as well as laboratory space. The Smithsonian will seek matching private philanthropic support for the salaries of American scientists participating in the program who are not on the permanent staff and for vehicle support and other associated field costs.

For IESP field environmental studies, an amount of \$20,000 is requested to support the travel of scientists engaged in ongoing research at the Program's research sites. The development of a five-year program at the two permanent sites is now well advanced, with 32 scientists now participating in 17 projects at the Program's various field sites. A program which has as its major objective to monitor and study the effects of natural and man made stresses on temperate and tropical ecosystems must involve intensive and long-term fieldwork. Therefore, an additional sum of \$20,000 to be added to base fieldwork travel funds of \$35,000 is critical to the continued progress of the Program.

ACADEMIC AND EDUCATIONAL PROGRAMS

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	18	478	2	131	--	586	--	38	--	3
FY 1981 Base	19	606	2	126	--	900	--	64	--	50
FY 1982 Estimate	19	649	2	139	--	1,000	--	28	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	19	0	19
Number of Other Positions.....	2	1	3
11 Personnel Compensation.....	465	19	484
12 Personnel Benefits.....	43	4	47
21 Travel & Trans. of Persons.....	13	2	15
23 Rent, Comm. & Utilities.....	4		4
24 Printing and Reproduction.....	56	9	65
25 Other Services.....	13	3	16
26 Supplies and Materials.....	7	2	9
31 Equipment.....	5	4	9
Total	606	43	649

Analysis of Increase

Necessary Pay.....	11
Inflation.....	7
Program Funds.....	25

ABSTRACT - Research and education are among the principal objectives and responsibilities of the Smithsonian. In order to foster and stimulate the pursuit and dissemination of knowledge, the Institution has promoted scholarly and academic ties with other learned institutions since its establishment, and has offered its resources for learning--its collections, professional staff, libraries, and laboratories--to the general public and to the academic community. These ties are developed and maintained through competitive awards for research projects, programs in higher education, symposia and seminars, and activities at the elementary and secondary levels. For FY 1982, an increase of \$25,000 is requested for the Office of Elementary and Secondary Education. Necessary pay in the amount of \$11,000 is requested for existing staff and an amount of \$7,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - Office of Fellowships and Grants: The Office of Fellowships and Grants manages Smithsonian fellowships and related academic programs, and administers the Special Foreign Currency Program which provides grants to American institutions, including the Smithsonian itself, for research in "excess" foreign currency countries. The Office, again, will manage the Research Awards Program should it be approved for FY 1982. Resources for administration of these programs are included here, as are costs of Institutional fellowships. Estimates for costs of the Special Foreign Currency Program are presented in the separate request for that appropriation.

Academic Programs: The National Collections in the Smithsonian's care, and the scholars who curate and study them, together offer unparalleled resources for specialized study in many disciplines, resources not duplicated at any university and essential to many scholars' research efforts. University education rests on the study of manuscript or printed material, and reproductions of artifacts. At the Smithsonian, historical and anthropological objects, original works of art, natural history specimens, living animals and plants, and ecological systems are directly available for study. Thus, the Smithsonian provides an important complement to university education.

The Institution opens its resources to students and scholars throughout the country, and profits from interchange with them. Residential fellowships are awarded throughout the Institution with nonappropriated Trust funds, enabling fellows to work in all research areas of the Institution and pursue interdisciplinary projects drawing upon several bureaus; they provide access to the full range of Smithsonian resources. From time to time, additional fellowships are offered through nonappropriated Trust funds or appropriated funds designated for the bureaus, providing research and training opportunities more closely tied to current bureau programs and interests. The Office of Fellowships and Grants manages all fellowships.

Pre-doctoral and post-doctoral fellowships support scholars receiving advanced research training under the guidance of senior Smithsonian staff. Fellows are in residence as guests in one or more bureaus using facilities and collections, receiving scholarly and technical help in their research and participating in the intellectual life of the Institution. Awards follow vigorous competition among several hundred candidates and evaluation by outside referees and by Smithsonian senior professional staff. Successful applicants are among the most promising scholars in their field. In FY 1980, 79 awards were made to fellows from 49 schools. Since 1965, 854 awards have been made to fellows from 192 schools.

In addition to the fellowships for students and younger scholars, a few fellowships are offered at the senior level for distinguished scholars and scientists of proven accomplishment. Now in its second year, the Regents' Fellowship Program, supported with nonappropriated Trust funds, continues to bring scholars of international renown for research and interaction with staff, pre-doctoral and post-doctoral fellows, student interns, and other visitors. In FY 1980, Regents' Fellows were in residence at the Smithsonian Astrophysical Observatory, the Smithsonian Tropical Research Institute, the National Museum of Natural History/Museum of Man and the Freer Gallery of Art, conducting research on subjects as diverse as mathematical astrophysics, sociobiology, Southwestern United States archeology, and Mughal paintings of India. Each Fellow has important publications in progress, and an exhibition also is planned at the Freer for 1981 based on research conducted there. Fellows expected in FY 1981 include the historian, Professor Lawrence Levine, who will study the culture of the Depression at the National Museum of American History, and Professor James van Allen, who, at the National Air and Space Museum, will write his personal

history of the unmanned space program which he pioneered. In addition to fellowships, resources of four different Smithsonian bureaus supported periods of residence of six senior scholars from the United States and abroad to conduct research and to join the Smithsonian scholarly community as visiting scientists and scholars.

As a further means of opening study and training opportunities to visitors, academic internships which generally do not carry stipend support, are offered to undergraduate and beginning graduate students to permit practical experience in areas related to their formal course of study. In FY 1980, the first complete review of the Smithsonian Institution internships showed that some 500 students take advantage of these opportunities each year, most of whom receive academic credit at the home institutions.

In FY 1981, the Institution has initiated new programs designed to reach out to students and institutions which have not participated regularly in Smithsonian research opportunities. These new programs include cooperative education and intern programs emphasizing minority and women students. The Office of Fellowships and Grants is involved with these programs as are participating Smithsonian bureaus and the Office of Equal Opportunity.

Office of Smithsonian Symposia and Seminars: The Office of Smithsonian Symposia and Seminars designs broad interdisciplinary programs linking the humanities and sciences for a wide range of audiences. These activities produce a free exchange of ideas among advanced scholars, intermediate students and professionals, and the larger concerned lay public. As a special extension of the Institution's growing education outreach effort, the Office addresses contemporary issues for the increased understanding of the implications of new knowledge.

The Smithsonian's seventh international symposium, "How Humans Adapt: A Biocultural Odyssey," is scheduled for November 1981. This symposium will bring nineteen academicians, writers, and government officials from all over the world to Washington for a week's intensive study of human adaptation from the perspectives of biology, cultural patterns, genetics, resources, social history and enlightened future public policies. Planning is now underway for the eighth in the international symposia series which will focus on the year 1984 and its Orwellian technological, political, and social overtones.

The "Voluntarism and the Public Interest in American Society" seminar series continued in FY 1981 with seminars on "Education for the Office of Citizen: Whose Responsibility?;" "Current Initiatives in Nutrition Research;" "High School Scholars at the Smithsonian;" "The Quest for Beauty;" and "Inventiveness: The Social Context." Special individual seminars were organized for graduate and undergraduate students from the University of Hawaii, on cultural and curriculum resources at the Smithsonian, and for Congressional Fellows, on exhibits of the Arts and Industries Building. "The Muses Flee Hitler II: Cultural Adaptation in Worldwide Perspective," continued the Einstein Centennial observance with a supplementary colloquium in response to scholarly demand. Publication of The Joys of Research, a book based on an earlier Centennial colloquium, further extended the Smithsonian's scientific outreach. The Office is also cooperating with citizens groups wishing to mark the Bicentennial of the Constitution (officially scheduled for 1987).

Office of Elementary and Secondary Education: A major objective of the Office of Elementary and Secondary Education (OESE) is to make Smithsonian resources for learning available to both the local and national school communities. Program activities include: planning and conducting teacher

workshops, developing audiovisual materials, preparing school publications, conducting a summer program for high school students, and coordinating the Smithsonian's educational activities for disabled visitors.

To encourage cooperation and exchange of information among the Smithsonian education offices and between those offices and local schools, the Office continues to offer a number of programs. Two publications--Let's Go (a monthly newsletter) and Learning Opportunities for Schools (an annual brochure)--are used to inform teachers about the variety of Smithsonian services and suggest ways of using museums as educational resources. These publications are sent to 1,200 schools in the Washington area. During FY 1980, a teacher workshop and seminar program, now in its tenth year, attracted more than 3,000 teachers to 85 programs, including nine summer courses, enabling the development of curriculum units based on Smithsonian resources. Summer workshops include an orientation program to museum resources for secondary teachers entitled "A Mixed Bag;" several one-week seminars on museum teaching methods; and two three-week courses featuring programs on "Developing Writing Skills Using Museums," and "Discover the 19th Century Through Smithsonian Collections."

To share these same teaching concepts with a national audience, Art to Zoo, a classroom newspaper, continues to be distributed to over 15,000 schools and 60,000 teachers throughout the United States. Art to Zoo has been expanded to include "The Pull Out Page" designed for young readers. During the summer of 1980, OESE sponsored the first in a series of courses for a national audience of classroom teachers. Two courses were held in 1980 and one additional course is planned for 1981.

In FY 1981, the Office continued its work to make Smithsonian programs accessible to disabled visitors by providing interpreters at special events, lectures and tours. An audio loop system also was installed in the National Museum of Natural History/Museum of Man. The Office is planning and coordinating the Smithsonian's celebration of the International Year of Disabled Persons.

EXPLANATION OF PROGRAM INCREASE - Office of Elementary and Secondary Education: Beginning in FY 1980, this Office introduced "The Pull Out Page" as a student supplement to the classroom newspaper Art to Zoo. As this publication grows in popularity, it is essential that additional resources be made available to support the expanded format and the increase in distribution to schools in the United States. For FY 1982, an amount of \$25,000 is requested. Of this amount, \$12,000 is needed for a part-time writer who will assist in the research necessary for writing educational articles for both Art to Zoo and Let's Go. The writer also will prepare articles for other OESE publications, assist in evaluating publications, and aid in the conduct of teacher workshops related to utilizing Smithsonian collections in the teaching of writing. An additional amount of \$13,000 is sought for publication costs and for the purchase of necessary supplies and services.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - The major portion of these funds is provided from allotments and is designated for the Institution's fellowship program (estimated expenditures of \$800,000 in FY 1981 and \$900,000 in FY 1982). Other funds in this category include \$100,000 projected for FY 1981 and FY 1982 to support the Regents' Fellowship Program for distinguished visiting scholars initiated in FY 1980. An allotment also is provided to support the salaries of the Director of the Office of Symposia and Seminars and a staff member of the Office of Fellowships and Grants. In FY 1980, support provided from the Institution's Collections Acquisition,

Scholarly Studies and Education Program to the Office of Elementary and Secondary Education was used to develop a pilot program to extend the museum experience to the disabled (\$39,000). The Office of Smithsonian Symposia and Seminars also has received support from this Program to produce educational materials commemorating the celebration of the International Year of the Child (\$18,000). Expenditures under the Collections Acquisition, Scholarly Studies and Education Program have been recorded for FY 1980, but not yet for FY 1981 and FY 1982. These offices can expect to receive and spend funds made available through this Program in FY 1981 and FY 1982.

Restricted Funds - Funds provided here are in the form of restricted endowments, gifts and foundation grants which specify the use of the donation or bequest. Funds come from individuals, organizations or corporations and are designated for the support of the particular project. For example, the Walter Rathbone Bacon Scholarship Endowment, provided to the Office of Fellowships and Grants, is used to support fellowships in zoological research (estimated expenditures of \$22,000 in FY 1981 and \$11,000 in FY 1982). In FY 1981, support received from the Rockefeller Foundation will be used to provide follow-up support and to pay publication costs for a colloquium conducted by the Office of Symposia and Seminars (\$17,000).

Federal Grants and Contracts - These funds are provided from various Federal agencies and generally are used to support specific seminars and symposia. In FY 1981, for example, funds provided from the National Institutes of Health (\$50,000) will be used to support the Office of Symposia and Seminars' seventh international symposium. No grants are anticipated currently for FY 1982.

COLLECTIONS MANAGEMENT/INVENTORY PROGRAM

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
	General		Special Purpose							
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	--	543	--	--	--	--	--	--	--	--
FY 1981 Base	--	582	--	--	--	--	--	--	--	--
FY 1982 Estimate	--	792	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	0	0	0
Number of Other Positions.....	20	20	40
11 Personnel Compensation.....	478	174	652
12 Personnel Benefits.....	34	9	43
21 Travel & Trans. of Persons.....	3	2	5
22 Transportation of Things.....	3	-2	1
23 Rent, Comm. & Utilities.....	29	27	56
24 Printing and Reproduction.....	1	4	5
25 Other Services.....	32	-4	28
26 Supplies and Materials.....	1	1	2
31 Equipment.....	1	-1	
Total	582	210	792

Analysis of Increase

Necessary Pay.....	1
Inflation.....	9
Program Funds.....	200

ABSTRACT - In September 1978, the Institution developed a plan for scheduling and performing inventories of its collections. The successful operation of this plan continues to be a high Institutional priority. In FY 1979, a special appropriation of \$500,000 was made to the Institution to accelerate this process. These funds were applied to major inventory projects in the three museums where the need for additional effort was of greatest urgency: (1) the National Museum of Natural History/Museum of Man (NMNH/MOM); (2) the National Museum of American History (NMAH), (both of which will move some of their collections to the Museum Support Center (MSC) starting in 1983); and (3) the Cooper-Hewitt Museum, whose collections had not been inventoried fully prior to

the Museum's transfer to the Smithsonian. Appropriations of \$500,000 (adjusted by pay supplemental appropriations and funds provided for inflation) were made each year in FY 1980 and FY 1981 to continue this program. These funds were used to continue the inventory efforts at these three museums, to computerize the inventory of the "Smithsonian Art Index" at the National Museum of American Art (NMAA) and to provide additional data processing capability to cope with the vast amount of inventory information gathered by the inventory projects. The appropriations made available through the Collections Management/Inventory Program have made it possible for the Institution to develop inventory techniques and methods of recording data that will be applied to future inventory and collections management efforts. A program increase of \$200,000 is sought for FY 1982, mainly to enable the National Museum of Natural History/Museum of Man and the National Museum of American History to complete their initial inventories in 1983, and to assure that these museums will have complete inventory control over the collections that are scheduled to be transferred to the Museum Support Center. An amount of \$1,000 is required for necessary pay for special inventory staff and funds of \$9,000 are requested to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Institution has established that a complete inventory of its collections is a major priority and an essential part of its Collections Management/Inventory Program. The specific inventory plans prepared by each museum, including time tables, information requirements and procedures, are based on the nature and size of its collections. Inventory programs initiated at the National Museum of Natural History/ Museum of Man, the National Museum of American History (then the National Museum of History and Technology), and the Cooper-Hewitt Museum in FY 1979 are actively continuing in FY 1981. An allocation was made in FY 1980 to support the "Smithsonian Art Index" project at the National Museum of American Art. In each of these museums, inventory standards and methods, including data gathering and recording systems and collection condition reports, have been developed, and teams of temporary or part-time employees have been hired to assist regular staff with the inventory process. More than 80 such temporary or part-time employees have been involved in this process at various times. By the end of FY 1980, the NMNH/MOM had created and computerized more than 2,000,000 inventory records. The NMAH had inventoried and created inventory records for 186,000 objects, and the Cooper-Hewitt Museum did the same for 66,000 objects. The National Museum of American Art had created approximately 6,000 computer records representing approximately 80,000 objects for the "Smithsonian Art Index." The special appropriation has permitted the inventories to progress with steadily improved efficiency.

For FY 1981, the special inventory appropriation has been allocated for the most part to the National Museum of Natural History/Museum of Man, the National Museum of American History and the Cooper-Hewitt Museum, with smaller allocations made to the National Museum of American Art, the Office of Computer Services and the Office of the Registrar. The Collections Management/Inventory Program is proposed to support continuation of the same projects in FY 1982.

At NMNH/MOM, a total of \$860,000 is designated in FY 1981 for collections inventory work, of which \$559,000 is from the Museum's base funds and an estimated \$301,000 is from the Collections Management/Inventory Program funds. For FY 1982, the Museum proposes to use \$950,000 for collection management inventory work, of which \$559,000 is from the Museum's base funds and an estimated \$391,000 is from the proposed Collections Management/Inventory Program funds. NMNH/MOM is giving first priority to item-by-item inventories (called an item level inventory by the Museum) of valuable specimens and unusually important specimens such as typespecimens and endangered species. Much of the material to be moved to the Museum Support Center also will be inventoried at the item

level, contributing to a combined data base of over 3,000,000 records. The remaining specimens will be inventoried in batches of systematically related materials called a "collection level" inventory by the Museum.

The largest inventory project in NMNH/MOM is the inventory of the Ethnology/Archeology collection of the Department of Anthropology which is made up of highly valuable specimens which will be moved to the MSC. The shelf inventory (count of collections on the shelves and in other storage) of that collection was virtually completed in FY 1980 and yielded nearly 400,000 specimen records. Checking of these records against the catalogue records is under way. Other collections being inventoried because of their high value or unusual importance include human skeletons, meteorites, representative types of living and fossil plants and animals, valuable insects and mollusks, valuable fossils, primates, and other valuable mammal skeletons and skins, historical photographs, sound recordings, art work, and maps and manuscripts of the National Anthropological Archives. Collections being inventoried prior to being moved to the Museum Support Center include algae, plant specimens awaiting identification and curation, the diatom and wood collections, portions of the collections of insects and other invertebrate animals, rocks and ores, stratigraphic suites of fossils, eggs and nests, bird skins, tanks of fish, and other selected groups of fishes, large reptiles and amphibians, large mammal skeletons, and the collections of the Smithsonian Oceanographic Sorting Center. With the exception of those inventories that are or will be completed by the end of FY 1981, the inventories of most of these collections will be ongoing in FY 1982, and will be supported by a combination of special inventory funds and NMNH/MOM base funds.

At NMAH a total of \$543,000 is designated in FY 1981 for collections inventory work, of which \$368,000 is from the Museum's base funds and an estimated \$175,000 is from the Collections Management/Inventory Program funds. For FY 1982, the Museum proposes to use \$661,000 for collections inventory work, of which \$398,000 is from the Museum's base funds and an estimated \$263,000 is from the Collections Management/Inventory Program funds. Based on the experience gained during the first year of inventory work, during FY 1980, the NMAH formulated improved guidelines for conducting the inventory and provided training for additional personnel performing the work. These efforts were intended to help the Museum meet established deadlines by increasing the efficiency of the process. In the area of general collections, the Museum has completed the inventory of the holdings of the following divisions stored at the Mall building: Physical Sciences; Mechanical and Civil Engineering; Transportation; Musical Instruments; and Textiles. Significant progress also has been made toward completing the inventory of five other divisions. Contents of the Division of Photographic History, including photographic equipment and various collections of photographs (in excess of 300,000 items) have been prepared for inventory, and sample inventory procedures for these materials are under way. Work has begun in the Division of Political History, whose holdings represent the largest in the area of general collections still to be inventoried. In the numismatic collections, over 35,000 certified proofs of United States' currencies have been hand counted and compared to lists accompanying the items when they entered the collections. In addition, one third of the 31,000 United States and foreign medals has been inventoried. In the philatelic collections, more than 170,000 separate sheets of Internal Revenue stamps, approximately 95 percent of the holdings in this category, have been inventoried. Both the numismatic and philatelic collections present special problems because of their enormous size (800,000, and 13,000,000 respectively). Consequently, specific plans are being developed so that these inventories can be expedited during FY 1981 and FY 1982. In FY 1981, the NMAH plans to complete the inventory for the following divisions: Costume; Domestic Life; Electricity and Modern Physics; Mathematics; and Community Life. Emphasis will be placed during the year on collections stored at the Museum's storage buildings in Suitland, Maryland.

In FY 1982, the NMAH will continue with the inventory of photographic history, numismatics, mechanisms, naval history, philatelics, and the variety of collections stored at the Suitland buildings.

The Cooper-Hewitt Museum anticipates using amounts of \$110,000 in FY 1981 and \$115,000 in FY 1982 for inventory work, consisting of base funds of \$50,000 each year and allocations of \$60,000 in FY 1981 and \$65,000 in FY 1982 from the Collections Management/Inventory Program funds. More than 87,000 objects were inventoried by January 1981, of which more than 60,000 have been entered into the computer. In FY 1980, inventory of the wallpaper collection was completed (inventories of the ceramics, glass and paintings collections were completed earlier) inventories of the decorative arts, drawings and prints collections continued, and plans for the inventory of the textile collections were developed. In FY 1981 and continuing into FY 1982, work will continue on the processing of all collections not yet completed, including the textiles collections, which is expected to yield approximately 20,000 computer records. Reconciliation of inventory data against the Museum's accession books, which are the primary records for the collections, will be given increasing priority in FY 1982.

The "Smithsonian Art Index" project of the National Museum of American Art (NMAA) was initiated in 1976 using a part-time researcher to accumulate information, in manual form, on the art held by the National Air and Space Museum, the National Museum of American History, the National Museum of Natural History/Museum of Man, the National Zoological Park, and the Smithsonian Institution Building. Starting in FY 1980 and continuing in FY 1981, this project was expedited and computerized with the supplementary resources of \$12,000 each year from the Collections Management/Inventory Program funds. It is proposed to apply an amount of \$18,000 toward this effort from these funds in FY 1982. The information that has been collected to date and that is continuing to be collected will be prepared for entry into a computer data bank. When completed, the "Smithsonian Art Index" will serve as an invaluable cross reference with other inventory records. It also will provide scholars and researchers with ready access to information on all of the Institution's art holdings.

Most of the balance of the Collections Management/Inventory Program appropriation, \$30,000 in FY 1981, is designated for the Office of Computer Services (OCS) to enable it to maintain its capabilities to handle the great quantities of data being produced by the inventory projects. Funds of \$3,000 have been provided in FY 1981 to OCS and to the Office of the Registrar to be used for travel to the Cooper-Hewitt Museum in New York City for periodic advisory meetings, and to provide for the training of computer personnel who are working with the computer systems involved in the inventory process.

With the Collections Management/Inventory Program funds added selectively to the resources of those museums faced with the largest and most complex inventory tasks, steady progress has been made to date, not only in terms of the quantity of work done, but also in terms of the effectiveness of the systems devised to accomplish it. In addition, the development of computer programming for the collection of pertinent and basic inventory data will serve to simplify and expedite future inventory cycles. The systematic inventory effort has been of enormous practical and intellectual value to the Institution; the experience acquired and the innovative methods and techniques being used also will be of great benefit to collections management programs and responsibilities of other museums.

EXPLANATION OF PROGRAM INCREASE - In 1978, the Institution established as a high priority that a comprehensive inventory of the holdings of its museums be undertaken. The importance of the activity was emphasized by setting June 1, 1983, as the completion date for the first inventory cycle, thus allowing less than five years for the inventory of more than 75 million museum objects and specimens. Work was begun immediately to develop appropriate plans and inventory procedures for each of the many and diverse types of collections in the museums of the Institution. In FY 1979, the Congress appropriated an amount of \$500,000 to supplement existing resources of the Institution in order to accelerate the inventory process. Similar amounts were appropriated in FY 1980 and FY 1981. These funds have been applied to inventory work at the National Museum of Natural History/Museum of Man, the National Museum of American History, the National Museum of American Art, and the Cooper-Hewitt Museum. These museums have, over the same period of years, applied a total of \$2,310,000 from their base resources to their inventory projects.

Even with the effective inventory systems that are now in place and with the intensity of the effort to date, the sheer volume of the numbers of objects in the Smithsonian's collections, and their diversity, require that additional resources be applied to the inventory, particularly in the Institutions' two largest museums (the National Museum of Natural History/Museum of Man which holds approximately 60 million items, and the National Museum of American History which holds approximately 15 million items) to permit them to meet the established 1983 completion date; to sustain the momentum that has been achieved with personnel now trained for the task; and to assure complete inventory control over those collections which will be transferred to the Museum Support Center in 1983. A collections inventory of this magnitude has never been undertaken before in the museum world. The experience of the last two years has made it possible to judge more accurately the pace at which inventory work must proceed in order to meet the deadline. For FY 1982, a program increase of \$200,000 is requested to bring the Collections Management/Inventory Program to a level of \$792,000. These funds will be combined with base Institutional resources of \$1,007,000. The Institution plans to distribute the proposed program increase as follows: \$89,000 to the National Museum of Natural History/Museum of Man; \$84,000 to the National Museum of American History; \$5,000 to the Cooper-Hewitt Museum; \$4,000 to the National Museum of American Art; and \$18,000 to the Office of Computer Services. These funds will permit the National Museum of Natural History/Museum of Man to extend its inventory work to additional collections including manuscripts and part of the photographs in the National Anthropological Archives, invertebrate animals to be moved to the MSC, portions of the stratigraphic suites of fossils, and selected groups of fishes; the National Museum of American History to progress with its inventory of photographic history, numismatics, mechanisms, naval history, philatelics and the varied collections stored at the Museum's five storage buildings in Suitland, Maryland; the Cooper-Hewitt Museum to proceed with its inventory of all collections not yet completed including the textiles collections, which is expected to yield approximately 20,000 computer records; and the National Museum of American Art to continue work on the "Smithsonian Art Index" which, when completed, will be an invaluable reference of art works held in Smithsonian museums that are not devoted primarily to art.

Collections Management/Inventory Program funds support part-time inventory technicians, and computer services, photography of objects, and printed inventory forms. The additional amount of \$200,000 proposed for FY 1982 will be used primarily for additional part-time technicians and for computer services.

The following tables summarize the allocation of the Collections Management/Inventory Program funds in FY 1981 and the proposed allocation for FY 1982, and show the bureau funds that also are being applied to this work.

SMITHSONIAN INSTITUTION
COLLECTIONS MANAGEMENT/INVENTORY PROGRAM

(Dollars in thousands)

	<u>Natural History</u>	<u>American History</u>	<u>Cooper- Hewitt</u>	<u>Other</u>	<u>Total</u>
FY 1981 Base Resources <u>/1</u>	559	368	50	-	977
FY 1981 Estimated Portion of \$582,000 <u>/2</u>	<u>301</u>	<u>175</u>	<u>60</u>	<u>46 /3</u>	<u>582</u>
TOTAL FY 1981	<u>860</u>	<u>543</u>	<u>110</u>	<u>46</u>	<u>1,559</u>
FY 1982 Base Resources <u>/1</u>	559	368	50	-	977
FY 1982 Redirected Base Resources	-	30	-	-	30
FY 1982 Estimated Portion of \$792,000 <u>/4</u>	<u>391</u>	<u>263</u>	<u>65</u>	<u>73 /5</u>	<u>792</u>
TOTAL FY 1982	<u>950</u>	<u>661</u>	<u>115</u>	<u>73</u>	<u>1,799</u>

/1 Base resources will be adjusted to reflect FY 1981 and FY 1982 pay supplementals.

/2 FY 1981 Collections Management/Inventory Program base, including FY 1981 pay supplemental request.

/3 In FY 1981, this amount has been allocated as follows: National Museum of American Art, \$13,000; Office of Computer Services, \$32,000; and Office of the Registrar, \$1,000.

/4 Proposed FY 1982 base, including funds of \$10,000 sought for necessary pay and inflation.

/5 For FY 1982, this amount will be allocated tentatively as follows: Office of Computer Services, \$54,000; Office of the Registrar, \$1,000; and National Museum of American Art, \$18,000.

MAJOR EXHIBITION PROGRAM

(Dollars in thousands)

Fiscal Year		FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
				UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
				General		Special Purpose					
				FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	--	--	--	--	--	--	--	--	--	--	
FY 1981 Base	--	750	--	--	--	--	--	--	--	--	
FY 1982 Estimate	--	1,000	--	--	--	--	--	--	--	--	

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	0	0	0
Number of Other Positions.....	2	11	13
11 Personnel Compensation.....	31	83	114
12 Personnel Benefits.....	3	8	11
21 Travel & Trans. of Persons.....	3	2	5
22 Transportation of Things.....	7	5	12
24 Printing and Reproduction.....	51		51
25 Other Services.....	505	52	557
26 Supplies and Materials.....	85	100	185
31 Equipment.....	65		65
Total	750	250	1,000

Analysis of Increase

Necessary Pay.....	0
Inflation.....	0
Program Funds.....	250

ABSTRACT - The Major Exhibition Program provides centralized support for major history and art exhibitions which can not be funded within base resources. For FY 1982, completion of the two exhibitions begun with an appropriation of \$750,000 in FY 1981 is proposed: on the 250th anniversary of his birth, the first major George Washington retrospective held anywhere in the world during this century--to be presented and interrelated with existing exhibitions at the National Museum of American History (NMAH); and a year-long display, augmented by live demonstrations, of the Institution's best folklife objects drawn from all Smithsonian museums and occupying all exhibit halls at the Renwick Gallery. For these purposes, a total of \$1,000,000 is sought for FY 1982.

PROGRAM - As early as 1970, the Institution recognized the need for special funds to replace large semipermanent exhibitions, which had become outdated, with new major exhibitions of particular interest and timeliness. Accordingly, new line items in the Smithsonian's Federal budget entitled "Major Exhibitions" and "Bicentennial Programs" were established and generously funded by the Congress to permit necessary planning, to coordinate research and collecting, and to exhibit production employing the most advanced techniques of display. Many of the exhibitions produced under these two programs, funded at \$8,257,000 over the five year period, FY 1971 - FY 1976, are still on view. They included among others, "We the People" and "A Nation of Nations" in the National Museum of American History; "Benefits from Flight" in the National Air and Space Museum; "The Federal City: Plans and Realities" in the Smithsonian Institution Building; and "1876 - A Centennial Exhibition" in the Arts and Industries Building. Following the Bicentennial, the Institution elected to focus attention and resources on needed collections management efforts which had been underemphasized during the intensive, exhibition-oriented Bicentennial period. As a result, these two exhibitions programs were phased out and their funding was redirected to other programs upon rejustification to the Congress. It soon became evident, however, especially in the National Museum of American History, that a new and continuing program of special funding to revitalize Smithsonian exhibitions was urgently needed.

This Museum alone has approximately 8 1/2 acres of exhibition space, over 70 percent of which comprises displays dating from the 1960s. If one were to take an average cost of \$75.00 per square foot and redo all of its exhibitions, the total cost would be a staggering \$27 million. By contrast, the total nonsalary exhibit funds available in NMAH's base budget total only \$150,000 for FY 1981. Without additional funding, it would take until far into the next century to redo these already dated displays. This clearly is unacceptable.

One remedy the Institution has sought to employ, with occasional success, is private fund raising. For the "Hall of American Maritime Enterprise" and "The Clockwork Universe" exhibitions at the NMAH, more than \$1.2 million was raised from outside sources. The uncertainty of such financing, however, defeats necessary long-range planning for exhibits development and ties any program of comprehensive upgrading to the unpredictable tastes of the marketplace. This clearly also is unacceptable.

In short, the Institution's history and art museums, especially the National Museum of American History, have a critical need for a long-term program which can selectively augment their available base funding in order to produce large new exhibitions. The Major Exhibition Program initially supported by the Congress with an appropriation of \$750,000 for FY 1981, will fill this need. Administered centrally by the Assistant Secretary for History and Art, funds for the Major Exhibition Program are justified to the Congress for specific exhibitions--usually two per year, one at the NMAH and another which might call into play the cooperative forces of two or more Smithsonian museums in a joint venture. So structured, the Program avoids permanent increases to any museum's base funding, thus retaining flexibility for varying allocations based on merit and need, and providing for direct and continuing Congressional oversight.

EXPLANATION OF PROGRAM INCREASE - The National Museum of American History initiated in FY 1981 a ten-year program to overhaul its public spaces following reconsideration of its responsibilities to the public and to its rich and multi faceted collections. A more rational arrangement of public space is intended, with new orientation areas and greater clarity of presentation of the

relationship of portions of its collections to each other. Five million visitors who attend the Museum each year will find new collections and new exhibitions installed in a way that will enable more frequent display of items now in storage, as well as timely small exhibits, which will permit fresh perceptions of the meaning of the past for the present.

American History - Of the \$750,000 appropriated in FY 1981 for the Major Exhibition Program, an amount of \$500,000 has been allocated to the production of the essential core of the George Washington exhibition, scheduled to open at the NMAH on the 250th anniversary of his birth on February 22, 1982. Installed on the Museum's main floor, directly behind the "Stars and Stripes" from Fort McHenry in a gallery of approximately 6,600 square feet, the exhibit will highlight the widely known facts about his life--and the myths about him--and go further to concentrate on his origins and his personality as they affected the requirements of an emerging American nation. The NMAH will cooperate with other Smithsonian bureaus as well as with Mount Vernon and other repositories of memorabilia of Washington and his contemporaries. The catalogue of this exhibition will combine the contributions of curators from many disciplines (from ceramics to large machines, from agriculture to graphics) and consulting scholars. Symposia and other public events connected with the exhibition will engage experts from various disciplines in order to focus on the first President's life and times. The Institution envisages the publication of at least one major book in addition to the catalogue. A whole new generation of Washington monographs, as well as educational materials (filmstrips, teaching aids, self-guiding tour leaflets) and traveling exhibitions will be developed and funded by outside monies that the Museum is seeking to raise.

For FY 1982, a sum of \$800,000 is sought to extend the core Washington exhibition, which focuses on this great national hero, into the 19th century by showing, in approximately 10,000 square feet of adjacent gallery space, the everyday life of ordinary citizens in different regions of the country. By a combination of borrowed materials, as well as major objects from the National Collections, the NMAH will show the effects on our national life of changes in production and consumption which swept the nation into the steam-powered age. The exhibition will illustrate in detail how people worked and lived, how they felt about the common affairs of the new nation, and how their patience and adaptability were tested. The emphasis will be on continuities which stretch through to the present and on the claims all Americans have on our common history. A range of special publications, catalogues, pamphlets, films, and tapes will address changes in the technology of the period, the development of science, and the ways in which these changes were felt in the central contexts of home and workplace.

Besides renovating large, central areas of the Museum, this FY 1982 program will have the associated benefit of revitalizing and creating new interest in, and contexts for, the surrounding older exhibitions. Of the \$800,000 required, approximately \$85,000 is needed for removal of existing materials and demolition of temporary walls and structures; \$400,000 is required for subsequent construction; \$70,000 for hiring of temporary installation technicians; \$30,000 for transportation and insurance of borrowed objects; \$40,000 for catalogue and brochure publication; and \$175,000 for supplies and materials. Complementing these funds, the Museum's staff resources will be committed to design, customized case fabrication, and care and installation of objects.

Folklife Exhibition - "Celebration: A World of Art and Ritual," an integrated display of folk and traditional objects from Smithsonian collections, will be the largest exhibition ever organized for the Renwick Gallery, and will

occupy the entire building in two phases from December 1981 until May 1983. Between 500 and 700 objects, drawn from seven Smithsonian museums and representing 62 world cultures, will be presented in the context of their creation, use and meaning in their societies.

The exhibition will be divided into seven sections, each focusing on a specific ceremony or ritual, whether familial, religious, civic, or calendric in nature, with appropriate comparisons drawn between American celebrations and those from Asia, Oceania, Africa, and Central and South America. The objects in the exhibition will be drawn from the National Museum of Natural History/Museum of Man, the National Museum of American History, the National Museum of American Art, the National Portrait Gallery, the Museum of African Art, the National Gallery of Art, and the Cooper-Hewitt Museum. Ninety-five percent of the objects, which include masks, shrines, parade regalia, furniture, textiles, and puppets, have never been exhibited before.

Live performances and presentations will be incorporated into the exhibition much in the fashion of the Smithsonian's annual Folklife Festival. In addition, video stations will augment the static objects and show them in the context of their celebratory use. In this way, the presentation of dance, drama, or games will not be limited to the three-dimensional objects, but sound and process will stand in tandem with their related objects.

The Smithsonian's Folklife Advisory Council, which consists of scholars of folklife and anthropology outside the Institution, as well as of all Smithsonian departments with related collections or research functions, is providing guidance to the project. In addition, 35 curators from nearly all of the Smithsonian museums have contributed their efforts to the project. Registrarial and other staff members from the museums will continue to be involved during the next two years. Design and installation of the exhibition will be under the control of the National Museum of American Art. Initial research as well as the folklife presentations are the responsibilities of the Institution's Office of Folklife Programs.

Of the \$750,000 appropriated for Major Exhibitions in FY 1981, an amount of \$250,000 has been allocated to "Celebration." This sum, together with private fund raising efforts (to help offset the effects of intervening inflation as well as the 25 percent reduction to the Major Exhibitions request for FY 1981) should prove sufficient to open the Renwick's first floor galleries in December 1981; and to make major progress toward the requirements posed by the second floor portion of the show, which is scheduled to open in March 1982. For FY 1982, a sum of \$200,000 of the \$1,000,000 requested for Major Exhibitions is required to complete the second floor installation (\$110,000) and provide for seven folklife events in the museum which are designed to enliven the presentation with actual celebrants (\$90,000). The National Museum of American Art--the Renwick Gallery's parent bureau--and the Smithsonian's Folklife Unit will provide staff support.

For FY 1983, tentative plans call for further support of exhibit upgrading at the National Museum of American History and assistance in funding a major international sculpture show in commemoration of the Hirshhorn Museum's 10th anniversary.

MUSEUM SUPPORT CENTER EQUIPMENT

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	--	195	--	--	--	--	--	--	--	--
FY 1981 Base	--	2,711	--	--	--	--	--	--	--	--
FY 1982 Estimate	--	4,495	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	0	0	0
Number of Other Positions.....	0	0	0
31 Equipment.....	<u>2,711</u>	<u>1,784</u>	<u>4,495</u>
Total	<u>2,711</u>	<u>1,784</u>	<u>4,495</u>

Analysis of Increase

Necessary Pay.....	0
Inflation.....	195
Program Funds.....	1,589

ABSTRACT - Working drawings and specifications for constructing the Museum Support Center were completed and delivered to the General Services Administration (GSA) by the architect/engineering firm (Metcalf/KCF) in May 1980. Construction was expected to begin in the fall of 1980. However, the bids received required funds of \$7.5 million more than were appropriated originally. In an effort to make an award possible within available funds, the Institution, the General Services Administration and the architect/engineers worked intensively for several months to modify the plans and specifications. The Congress then provided an additional amount of \$5,000,000 in Federal funds in FY 1981 which will be combined with a sum of \$2,500,000 of the Institution's nonappropriated Trust funds to permit the construction of the facility as originally planned. With the additional funds, a construction contract was awarded by GSA in January 1981. A construction period of approximately two years will be required, leading to completion of the Center in the winter of 1982-1983. The Institution plans to occupy the building and to start a systematic transfer of collections to be stored there as soon as possible after its completion. To prepare for this event and to avoid unnecessary delays, the Institution is requesting for FY 1982 an amount of \$4,495,000 for essential equipment and furnishings for the structure. These funds will build upon equipment funds of

\$2,711,000 appropriated in FY 1981 and will be used to purchase: (1) the second increment of the Conservation Analytical Laboratory equipment needed for the Center (\$250,000); (2) the second increment of collection storage equipment (\$3,225,000); (3) the second increment of components for the Center's security and protection system (\$200,000); and (4) part of the laboratory and other equipment and furnishings for the National Museum of Natural History/Museum of Man (\$540,000); the National Museum of American History (\$225,000); the Libraries (\$32,000); and the Office of Printing and Photographic Services (\$23,000). In each of these categories, substantial lead time is necessary for the procurement of the equipment which must be designed, manufactured and assembled in advance in order to be ready for installation in 1983 when the building will be completed. To meet this goal, the Institution must be able to start procurement procedures in FY 1982.

PROGRAM - With planning funds totaling \$900,000 appropriated in FY 1978 and in FY 1979, and following an appropriation of \$20,600,000 in FY 1980 for construction, planning for the Museum Support Center began in January 1979 with the selection of an architect/engineering firm (Metcalf/KCF) by the General Services Administration with whom the Smithsonian had entered into an agreement for management of the project. A very tight planning schedule was established and all major target dates were met, except for the construction contract award which was delayed for four months until January 1981 because of the escalated cost of the project. Construction now will start in the winter of 1980-1981 and will be completed in 1983. The Smithsonian has committed an amount of \$2,500,000 of its nonappropriated Trust funds which with the additional Federal appropriation in FY 1981 of \$5,000,000 will be used to complete the project as planned.

The design for which working drawings and specifications have been developed will provide for a total of 251,000 net assignable square feet in the Center, of which 146,000 square feet will be dedicated to collections storage purposes. The balance of 105,000 square feet is devoted to various laboratory, work area, conservation training and service purposes.

The complicated process of the move to the Center, including setting up the laboratories and work areas, preparing the training facilities and, particularly, moving irreplaceable collections without damage or disorder must be undertaken with the greatest of care. The Smithsonian has identified the categories of equipment and furnishing needs for which specification and procurement procedures must be started early to assure production and delivery by the time of occupancy. These include part of the furnishings and equipment required by the Conservation Analytical Laboratory, the National Museum of Natural History/Museum of Man, the National Museum of American History, the Libraries, Photographic Services, part of the security system to be operated by the Office of Protection Services, and part of the collections storage equipment to be used by the National Museum of Natural History/Museum of Man and the National Museum of American History. A description of the equipment, an explanation of the need for it, and the estimated costs involved for each of these categories follows.

EXPLANATION OF PROGRAM INCREASE:

1. The Conservation Analytical Laboratory (CAL) will occupy a number of special laboratories and work areas in which to provide conservation treatment and related analytical services required for the care and preservation of the National Collections. The laboratories and their complementary facilities will be capable of handling the enormous range of materials and substances which occur in the objects and specimens in these collections. In addition, CAL will

be responsible for fumigating the collections as they enter the Museum Support Center. After the Center opens, CAL also will maintain a conservation information center and clearinghouse. Much of the equipment required for these functions is complex and must be specially manufactured to precise specifications.

Enough lead time must be allowed for the award of procurement contracts based on precise specifications and for the production of the equipment to assure that it is available and on hand in the Support Center in the winter of 1983. In FY 1981, an amount of \$450,000 was appropriated mainly for fumigation equipment needed before the collections can be moved to storage bays. An amount of \$250,000 is requested in FY 1982 for equipment purchases including counters, special storage cabinets, fume hoods and machinery for the paper and textile conservation laboratories and for the large woodworking shop. These funds also include provision for the purchase of furnishings and office equipment, particularly for the Conservation Information Center. Equipment for other laboratories and for the conservation training program, estimated to cost approximately \$800,000, will be acquired in future years. For these purposes, the Institution expects to allocate a sum of \$750,000 of its nonappropriated Trust funds in FY 1984 and in FY 1985.

2. Collections Storage Equipment - An amount of \$3,225,000 is sought to continue the acquisition of collections storage equipment for collections of the National Museum of Natural History/Museum of Man and the National Museum of American History. This equipment must be on hand when the Museum Support Center is ready for occupancy in the winter of 1983.

Some background information may be helpful to understand the request to fund over the next few years the purchase of the storage equipment necessary to accommodate the large collections which will be moved to the Support Center.

The final design for the Museum Support Center provides 251,000 net square feet (308,000 gross square feet) including 146,000 net square feet for the storage bays. The Institution realized that a major effort had to be made to maximize the utilization of this space by every possible means. In essence, the cubic content of the storage bays was the prime consideration. The way to make maximum use of the total space available was to develop the most efficient means possible to store the collections.

Working with Smithsonian staff, the architect/engineering team and its consultants (the Engineering Systems Division of the FMC Corporation) made a careful analysis of several types of storage technologies used by museums and by industry. After weighing the advantages and disadvantages (cost and physical) of various technologies, the consultant concluded that the best method would be to create self-supporting racks which would provide within the cubic footage of the storage areas an integrated but versatile system that would best satisfy the varied requirements of the many departments.

The storage system, consisting of self-supporting three-tiered steel racks holding storage compartments with drawers, shelves and other appropriate fixtures, provides for the Institution's storage requirements and can be installed incrementally in unitized floor-to-ceiling sections which eliminate the hazard of installing upper level storage components over collections stored below. This incremental, but safe, approach offers the further advantage that the purchase of equipment can be phased over the years according to an occupancy schedule. Serviceable storage equipment now in use will be reused to hold down costs.

Current plans call for equipping approximately half of the floor space available in the storage bays with the three-tiered system to house the collections scheduled to be transferred to the Center over the initial five year occupancy period. The installation of this system will be distributed throughout portions of all four storage bays, in accordance with present and future needs of the various program areas. In addition, about one eighth of the floor space will be used as a central storage area for oversized or heavy objects (e.g., totem poles, whale skeletons) which cannot be accommodated by the three-tiered racks.

Since September 1980, the consulting firm has been preparing detailed performance specifications for the collections storage equipment. In June 1981, bids will be solicited from suppliers so that production contracts for the first segments of the equipment can be awarded by September 1981, using the \$2,051,000 appropriated in FY 1981 for this purpose. The amount of \$3,225,000 requested in FY 1982 will allow a continuation of production so that a sufficient quantity of the storage system will be available for use at the Center at the time of occupancy.

3. The Office of Protection Services is responsible for the security that will be necessary at the Museum Support Center. Provision has been made in Support Center plans for a master control room in which security monitoring equipment will be housed. This control room will be linked with other security centers in Smithsonian buildings on the Mall as part of the overall security system at the Institution. Security equipment to be used at the Museum Support Center must be compatible in all respects to the master system, and is therefore under the control of the Office of Protection Services. Extreme care is being taken to assure that the plans for the security system are coordinated with the design plans for the Center. Funds of \$210,000 appropriated in FY 1981 are being used to purchase receiving, annunciating and reporting equipment that will be designed, assembled, and available for installation at the time the Center is ready for occupancy. For FY 1982, an additional amount of \$200,000 is sought for security hardware devices including magnetic contacts, motion detectors, TV cameras, electric locks, multiplexing panels, wiring, and the installation of these items. These devices will connect with the receiving, annunciating and reporting equipment being purchased in FY 1981.

4. The National Museum of Natural History/Museum of Man (NMNH/MOM) will initiate in FY 1982 the purchase of laboratory and other equipment it will require when the building opens. Priority will be placed on the purchase of laboratory equipment including fume and exhaust hoods, large laboratory sinks, chain hoists, distilled water apparatus, and anthropology conservation laboratory equipment. Some of the furnishings and other laboratory equipment needed by the scientific departments that will move into the building initially also will be purchased, as will basic building maintenance and custodial equipment. An amount of \$540,000 is requested for these purposes in FY 1982 and a further amount of \$2,174,000 is expected to be sought in FY 1983 and in FY 1984 to complete laboratory and other equipment purchases for NMNH/MOM.

5. The National Museum of American History also will initiate in FY 1982 the purchase of laboratory equipment it will require when the building opens. Purchases planned for FY 1982 include laboratory cabinets, heated sinks, analytical balances, humidity chamber, fume hood, and polarizing and stereo binocular microscopes for analysis and examination of the collections. An amount of \$225,000 is sought for these purposes in FY 1982 and a further amount of \$105,000 is expected to be requested in FY 1983 to complete these purchases.

6. The Smithsonian Institution Libraries will begin to purchase in FY 1982 the equipment and furnishings it will require to make the Museum Support Center's branch library serviceable when the building opens. An amount of \$32,000 is requested in FY 1982 for shelving, for a computer terminal that will be interactive with the Libraries' main system and for furniture. A further amount of \$17,000 is expected to be sought in FY 1983 and FY 1984 to complete these purchases.

7. The Office of Printing and Photographic Services requests an amount of \$23,000 in FY 1982 for the purchase of a portion of the equipment needed to open its Museum Support Center photographic studio and dark room. Items to be purchased consist of a film processing machine, an enlarger, a contact printer, spotlights, and camera equipment. A further amount of \$24,000, expected to be sought in FY 1983, is required to complete the photographic equipment purchases for the studio and dark room.

TOTAL ESTIMATED REQUIREMENTS AND FUNDING PLAN:

The FY 1981-FY 1985 costs of equipping the building, covering the first phase of storage and other items total approximately \$16,756,000 including estimated inflation. Of this amount, \$9,542,000 is for storage racks and related equipment; \$4,964,000 is for laboratory, office, library, photographic services and protection services equipment; and \$2,250,000 is for expected inflationary increases.

The Institution expects to apply funds from several sources over the next five fiscal years to help meet the necessary costs: amounts of \$650,000 in rent savings to be available when the Oceanographic Sorting Center moves to the new building; \$2,000,000 for equipment provided within the base of the National Museum of Natural History/Museum of Man; and \$750,000 in unrestricted Trust funds of the Institution. The balance of \$13,356,000 is to be requested from the Congress phased over a five year period which began with the appropriation of \$2,711,000 in FY 1981. The second phase of the equipping process would begin in FY 1986, and proceed as the collections dictate in future years.

RESEARCH AWARDS PROGRAM

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	--	--	--	--	--	--	--	--	--	--
FY 1981 Base	--	--	--	--	--	--	--	--	--	--
FY 1982 Estimate	--	300	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	0	0	0
Number of Other Positions.....	0	16	16
11 Personnel Compensation.....		70	70
12 Personnel Benefits.....		7	7
21 Travel & Trans. of Persons.....		60	60
22 Transportation of Things.....		4	4
23 Rent, Comm. & Utilities.....		2	2
24 Printing and Reproduction.....		1	1
25 Other Services.....		60	60
26 Supplies and Materials.....		40	40
31 Equipment.....		56	56
Total	0	300	300

Analysis of Increase

Necessary Pay.....	0
Inflation.....	0
Program Funds.....	300

ABSTRACT - The Research Awards Program is a competitive program that provides support costs necessary for new and innovative short-term research projects initiated by Smithsonian staff scientists. The Research Awards Program will be centrally administered by the Office of Fellowships and Grants. No funds have been appropriated for research awards since FY 1979, and consequently, there is no existing Program. An amount of \$300,000 is requested for FY 1982 to reestablish the Research Awards Program.

PROGRAM - The Research Awards Program was initiated in FY 1966 and functioned through FY 1979 to finance innovative fundamental research on a competitive basis. No funds were appropriated in FY 1980 for the Research Awards Program and the Institution did not include funds for it in the FY 1981 budget request pending a review of its value to the Institution. As a result of this review, it is clear that there is a strong Institutional need for the Research Awards Program and the Institution wishes to reestablish it in FY 1982.

The Smithsonian's expenditures for research most closely parallel the pattern of academic institutions where the majority of resources is directed toward the costs of salaries and benefits, basic essential research equipment, supplies and space. There is a continuing need at academic institutions for funds to support expenses associated with specific research projects, including travel, computer time, publications costs, and temporary research technicians. In most universities, this support is sought by the faculty through competitive application to granting organizations.

At the Smithsonian, research is the central work that produces program results in many areas of Smithsonian responsibility. Research is critical for the development of exhibitions, for collecting and for publications. Smithsonian researchers are expected to spend major portions of time on the curation of objects, exhibition support (if at a museum) and educational activities in addition to conducting long-term research in areas of traditional concern to the individual bureaus. There also is a clear expectation that Smithsonian scientists will pursue their own individual research interest. (It should be noted here that the grants and contracts from Federal agencies are not designed to respond to basic research efforts of individual scientists; rather these grants and contracts are awarded to the Smithsonian because of its expertise in research areas being pursued by funding agencies, as for example, grants and contracts from the Fish and Wildlife Service and the National Institutes of Health for training third world nationals in radiotelemetry techniques for private research.)

The Research Awards Program serves as the opportunity and the stimulus for Smithsonian staff to respond quickly to new research initiatives by providing them with essential funds for computer time, publications costs, travel, special equipment, and temporary research technicians. The Program is designed to provide resources for prompt initial investigation of promising new ideas which would be delayed if funds were sought within the normal one- to two-year budget cycle. Funds provided under a research award never pay any part of the salary of any Smithsonian staff member receiving the award. Further, when an award is received, the recipient is not relieved from his other normal responsibilities: develop and maintain collections, create exhibitions, undertake educational activities and conduct ongoing bureau research assignments.

The reestablished Program will be administered centrally by the Office of Fellowships and Grants following all appropriate Federal personnel and procurement practices and procedures along the pattern of the FY 1979 Program. Proposals will be solicited from staff and reviewed by a panel of distinguished scholars drawn exclusively from a variety of universities and research organizations throughout the United States. No employee of the Smithsonian will serve on the review panel and the National Science Foundation, again, will be asked to review the credentials of the panelists. These external review procedures will provide fresh insight into new scientific directions and assure the highest standard for research quality by basing the award solely on the scholar's competence in the field, the originality of approach, and the promise of providing new information on techniques in a particular field of scholarship. The central administration of the Program assures that the Program will be a true zero-base one in that only the best developed and most significant projects are funded

regardless of the organizational location of the individual researcher. It also assures that the funds do not become absorbed into the long-term programs of the bureaus when financial pressures arise. It is the Smithsonian position that annual competition for relatively limited funds, as opposed to one that provides additional base allocations to individual bureaus, stimulates innovation and creativity.

Between FY 1966 and FY 1979, results achieved through the Smithsonian Research Awards Program have justified amply the relatively small expenditure of Federal funds; approximately \$5.4 million was expended over 14 years, funding over 500 projects resulting in approximately 1,000 publications.

Many of the projects funded dealt with important national and international problems. For example, when the building of a sea level canal was first proposed, scientists and administrators had to consider the potential biological consequences. Preliminary experiments were designed rapidly to examine ecologically and economically important species. These experiments indicated the level of need for future studies. Studies at the Smithsonian's Panama facility funded through Research Awards contributed greatly to this effort. Also, under a research award, a Smithsonian scientist has produced the most detailed mapping of the geological history of the mid-continental United States. This information is usable in the search for oil, coal and uranium.

Research Awards also have enabled the study of a number of very important and exciting events which came about suddenly and unpredictably. In 1968, the largest volcanic eruption in nearly a decade took place on an uninhabited Galapagos Island. The center of the crater dropped 1,200 feet in the subsequent nine days. A geological event of this magnitude had not occurred since 1911, and modern scientists now have material providing new insight and understanding into a problem affecting people all over the world living on potentially active calderas. Research Awards funding for a study of this phenomenon provided a basis for future work in earthquake research. Another research project to appear suddenly was the fall of the Allende Meteorite in 1979. Through funding from a Research Award, the chemistry and mineralogy of samples of the meteorite were examined and determined to be good examples of primordial solar system matter.

EXPLANATION OF PROGRAM INCREASE - The Smithsonian continues to be convinced that a program that encourages annual competition for funds among all scientists throughout the Institution without regard to bureau lines stimulates innovative and creative research, a basic Smithsonian objective. The Program sustains the incentive for staff scientists to evolve the research initiatives that are crucial to the intellectual vitality, growth and integrity of the Institution. It also is essential to enable the Smithsonian to compete with academic institutions and private firms for the most talented scientists. With most research funds committed to salaries and benefits and bureau research efforts devoted to long-term continuing projects, there is a clear need for funds that can be distributed on the basis of merit for new and creative projects that, because of timing, cannot be anticipated in the budget process. All funds will be used for research support costs of temporary research technicians, publications, travel, special equipment and supplies, and other services. None of the funds will be used to pay any part of the salary of any staff member receiving the award. The review procedures that will be reinstituted under the Program will assure that outside impartial experts in their respective fields as certified by the National Science Foundation will participate in the review process.

The amount of \$300,000 sought for the FY 1982 Research Awards Program will provide a necessary stimulus for creative scientific research at the Smithsonian. It will put our scientists on a similar footing with those in universities who are able to compete for government grants. Past results readily document the achievements that may be expected from a reestablished Research Awards Program.

NATIVE AMERICAN PROGRAM

(Dollars in thousands)

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	1	35	--	--	--	--	--	--	1	54
FY 1981 Base	1	53	--	--	--	--	--	--	1	74
FY 1982 Estimate	2	353	--	--	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	1	1	2
Number of Other Positions.....	1	1	2
11 Personnel Compensation.....	35	27	62
12 Personnel Benefits.....	3	3	6
21 Travel & Trans. of Persons.....		15	15
22 Transportation of Things.....		35	35
24 Printing and Reproduction.....	1	5	6
25 Other Services.....	10	180	190
26 Supplies and Materials.....	3	5	8
31 Equipment.....	1		1
Acquisitions for collections...		20	20
42 Insur. Claims & Indem.....		10	10
Total	53	300	353

Analysis of Increase

Necessary Pay.....	0
Inflation.....	0
Program Funds.....	300

ABSTRACT - The Native American Program, formerly described under the Office of Museum Programs, draws upon the resources of the Smithsonian Institution to provide various forms of technical assistance to Indian, Eskimo and Aleut groups. The Program was initiated in FY 1977 as a special component of the museum training function of the Office of Museum Programs. That office funded the position of the Native American Program Coordinator as well as necessary clerical and logistical support. In FY 1978 and FY 1979, the United States Department of Labor provided funding of approximately \$14,000 for travel of the program coordinator to consult with tribal leaders and representatives of Native American museums. In FY 1979, the program also was provided funds of \$22,000 from the Institution's Collections Acquisition, Scholarly Studies and Education

Program to conduct workshops and support internships in museum training for Native Americans. In FY 1980 and FY 1981, using contract funds totaling approximately \$130,000 from the United States Department of Labor (supplementing Office of Museum Programs Federal base resources of the coordinator position and \$15,000 in support funds), the Program provided internships, workshops, and technical assistance for Native American museums and their personnel. For FY 1982, responding to the desires of the Native American museum community, the Institution wishes to extend in a major way the scope of its Native American Program and, accordingly, an increase of \$300,000 and one position are sought. All of the resources associated with the Native American Program were shown previously under the Office of Museum Programs. These resources are now included under this new line item.

PROGRAM - The Native American community, which consists of 499 federally recognized tribes in addition to numerous urban groups and state-recognized tribes, is very much aware of the steady and rapid disappearance of their traditional culture, including loss of language, ceremonial equipment, and folkways. Most groups are financially impoverished; nevertheless over a hundred groups have opened museums and cultural centers and many who do not have such facilities at present are planning them.

The Smithsonian Institution's Native American Museum Program was established in FY 1977 as part of the Office of Museum Programs in response to specific requests for technical assistance from Native American groups. The Program, which consists of only one staff coordinator and limited base funds, has provided such assistance through conducting workshops at the Smithsonian and in the field; serving as a liaison between Native American groups, various Federal agencies and private museums on matters pertaining to the Native American Religious Freedom Act; planning internships for personnel of Native American museums and locating funding for them; helping tribal museums secure loans of artifacts for their museums; and providing on-site technical assistance, including conservation techniques, to Native American museums and cultural centers.

In conducting museum training, the Program has drawn heavily upon the resources of the Smithsonian, including the Office of Museum Programs, Office of Exhibits Central, the National Anthropological Archives and the processing and conservation laboratories of the Department of Anthropology of the National Museum of Natural History/Museum of Man (NMNH/MOM). The holdings of this Department include valuable Indian artifacts and there is substantial staff expertise in their handling, display, and conservation. The Native American Program will continue to draw heavily on these resources.

The establishment of the North American Indian Museums Association (NAIMA) in May 1979 was the direct result of a special workshop held by the Native American Program in late 1978 for Native American museum directors. The Smithsonian's Program is the only technical museum assistance and training program which the NAIMA has approved. Moreover, this is the only Program offered which meets the training needs of Native American cultural institutions on a national level. In preparing to contract with the Smithsonian for expansion of the Program, the Employment and Training Administration of the United States Department of Labor noted that the program fitted strongly into the goals of the Indian Self-determination and Education Act of 1973. It is further noted that as a result of the Smithsonian's Native American Program, many successful museums had been established which created training opportunities and jobs which mandated the need for this training program. The Bureau of Indian Affairs' Institute of American Indian Art in Santa Fe, New Mexico offers a two-year

program leading to an Associates of Arts degree in museology, but Native American museums generally cannot afford a staff member's schooling in that program and there is no assurance that individuals will remain with their institutions once trained. Other training programs have been offered to the Native American community in such areas as librarianship and archival work; these have been funded through one-year grants, and none of them apply directly to museum studies. The Smithsonian's Program deals with institutions rather than individuals, reducing the effects of organizational staff changes, and making it possible to maintain a consistent and ongoing training and advisory effort.

Since its inception, the Native American Museum Program has conducted five workshops which have included 114 participants at sites in Washington, D.C.; Phoenix, Arizona; Cody, Wyoming; Seattle, Washington; and Anchorage, Alaska. These workshops covered conservation awareness, theory and practice of exhibit design, state and Federal resources, museum management techniques, label writing, building design, energy conservation, publications programs, and the American Indian Religious Freedom Act and other applicable Federal laws. A total of 24 internships of two to twelve weeks duration has been completed by Native American museum personnel under the aegis of the Smithsonian Program at such institutions as the Smithsonian's National Museum of Natural History/Museum of Man; the Museum of New Mexico, Santa Fe, New Mexico; the New York State Museum, Albany, New York; the Makah Cultural and Research Center, Neah Bay, Washington; and the Museum of the Cherokee Indian, Cherokee, North Carolina.

The expanded program envisioned for FY 1982 will build upon past efforts in close association with the Native American museum community. It will provide much needed additional training and will include assistance with conservation of priceless artifacts. Building on the sound relationship with the Native Americans that this Program is designed to foster, requests in future years are expected to include funds for special exhibitions on Native Americans and their cultures based on the most up-to-date scholarship.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, the Institution is seeking an increase of one position and \$300,000 in order to respond more adequately to the expressed desires of the Native American community. Since its inception the Program has functioned with one program coordinator, limited support funds which presently total \$15,000, a small grant of \$22,000 from the Institution's Collections Acquisition, Scholarly Studies and Education Program, and contract funds of approximately \$130,000 from the United States Department of Labor. The Native American Training Program has contributed substantially to improvements in tribal museums and cultural centers and has enabled a few Native Americans to become better informed of ways in which to preserve the tangible evidence of their rich cultures. However, funds have been insufficient to conduct the program at a level that will meet the needs of the broader community. Moreover, even the existing program is in jeopardy as continued grant funds from the Department of Labor are increasingly uncertain.

The additional position and \$300,000 sought for FY 1982 will mainly build upon previous efforts and will be applied as follows: (1) one position and \$30,000 for a conservator and for part-time or temporary clerical assistance; (2) \$95,000 for traveling exhibitions, including transportation and insurance, which will circulate nationally among Native American cultural centers and museums; (3) \$100,000 for workshops and internships; (4) \$40,000 for research, photography, and photocopying services for Indian museums; and (5) \$20,000 for purchase of contemporary Indian ethnographic specimens for loan and traveling exhibitions; and (6) \$15,000 for travel to permit the conservator and the program coordinator to provide on-site technical assistance.

Conservator (\$30,000) - Past experience has demonstrated a growing need for information and guidelines for the proper maintenance of Indian artifacts, as well as the loan of such artifacts for exhibit and research purposes. This need is most apparent in the Indian community where small museums are being formed with minimal budgets and artifacts of Indian origin are in demand. To insure that the Smithsonian can fulfill this need, a new position for a conservator of ethnographic objects and \$25,000 are requested. The conservator will be assigned to the Conservation Laboratory of the National Museum of Natural History/Museum of Man's Department of Anthropology to work exclusively with American Indian artifacts, and will be responsible for the preservation of specimens to be loaned or otherwise used in direct service to the Indian community. The conservator also will visit American Indian museums as needed to provide on-site technical advice and assistance. Duties will include preparation of specimens for loans or research projects, advising Indian museums on proper storage and exhibition techniques, and assisting Indian museums with special conservation problems or projects. The conservator will compile information pertaining to the proper conservation, exhibition and storage of Native American artifacts and will disseminate this information to the Indian community. The Department of Anthropology will provide space and the use of laboratory facilities for the conservation work to be performed under this program. A further amount of \$5,000 will be used to hire part-time or temporary clerical assistance as necessary.

Traveling Exhibitions (\$95,000) - The funds of \$95,000 sought for traveling exhibitions will defray the costs of preparing and providing important objects primarily from Smithsonian collections for display at Native American cultural centers throughout the country. Few of the Institution's significant ethnographic collections, or photographs from its anthropological collections, have ever been exhibited on reservations. The processes of borrowing collections and preparing temporary exhibitions is too expensive and unwieldy for most tribes to undertake themselves. By providing such services under this Program, in complete cooperation with Native American museums, Indian tribes would be in a stronger position to use collections more effectively than presently is the case. Recent experience with such loan arrangements as that of the Smithsonian Kiowa teepee collection to the Kiowa Tribe in Oklahoma, and other loan requests such as one recently received from the Native American Center for the Living Arts in New York makes it clear that this would be a service of great value to the Native American community.

Workshops and Internships (\$100,000) - The funds of \$100,000 requested for workshops and internships will enable the Program to offer one national training workshop and three regional workshops for 70 persons and to support individually planned internships for 20 persons for training in museums matched to their interests and specialties. All participants will be employees (curators, interpreters, administrators, program officers) of Native American museums or, in some instances, trustees of tribal planners engaged in Indian museum projects. The workshops and internships will enhance professional skills for the care, preservation and interpretation of their collections and for the management of their museums.

Research, Photography and Photocopying Services (\$40,000) - The further amount of \$40,000 is sought to provide research, photography and photocopying services for Indian museums. While tribes have a strong oral tradition, virtually all important written, photographic, and artifactual records relating to their cultures are held by non-Indian museums and archives. The museums of the Native American community need the opportunity to study and have access to these records in order to interpret their history from their own unique perspective. These funds would be used to allow Indian museum curators and historians to study off reservation collections of documents, paintings, photographs, and artifacts and to obtain copies, prints and photographs of them for use in their museums and by their tribes.

Acquisitions (\$20,000) - The funds of \$20,000 sought for purchase of contemporary ethnographic specimens will enable the Smithsonian to secure amply documented Indian and Eskimo objects of current manufacture for loan to Native American museums. These objects will be accessioned to appropriate Smithsonian collections and will be used as comparative pieces in conjunction with historical examples from the NMNH/MOM anthropology collections as key components in traveling exhibitions. At present the Department of Anthropology has no examples of such contemporary Native American arts and crafts available and it is essential that Indian and Eskimo cultures be portrayed in the light of their continuing creativity and vitality.

Travel (\$15,000) - Finally, direct contact between Smithsonian staff and the personnel of Native American museums and culture centers is a critical part of the program. The funds of \$15,000 sought for travel will allow this direct contact to take place. This is essential for the furnishing of on-site technical assistance ranging from architectural planning to conservation and exhibit design, for planning cooperatively the agendas for training workshops, and for the development of suitable individually structured internships. The direct contact will assure that the interests and needs of the Native American community and its museums will be foremost in all aspects of the program.

NONAPPROPRIATED SOURCES OF FUNDING:

Federal Grants and Contracts - These funds are provided by Federal agencies for specific purposes. In FY 1980, funds were provided by a grant from the Department of Labor to provide training opportunities for Native American museum personnel through internships, workshops and inter-museum cooperative agreements (FY 1980 expenditures of \$54,000 and FY 1981 estimated expenditures of \$74,000). No funds are anticipated for FY 1982 at this time.

ADMINISTRATION

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
			FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	257	7,781	160	5,075	1	90	1	101	--	30
FY 1981 Base	261	8,915	161	5,583	1	78	1	38	--	--
FY 1982 Estimate	265	9,876	161	5,981	--	48	1	60	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	261	4	265
Number of Other Positions.....	9	4	13
11 Personnel Compensation.....	6,850	470	7,320
12 Personnel Benefits.....	661	52	713
21 Travel & Trans. of Persons.....	51	5	56
22 Transportation of Things.....	8		8
23 Rent, Comm. & Utilities.....	181	32	213
24 Printing and Reproduction.....	107	69	176
25 Other Services.....	574	232	806
26 Supplies and Materials.....	287	99	386
31 Equipment.....	196	2	198
Total	8,915	961	9,876

Analysis of Increase

Necessary Pay.....	144
Inflation.....	93
Other Uncontrollable.....	163
Program Funds.....	561

ABSTRACT - The Administration activity grouping includes central management oversight and services provided by the Offices of the Secretary, Under Secretary, Assistant Secretary for Administration, General Counsel, Treasurer, Coordinator of Public Information, and the Director of Facilities Services (responsible for the Offices of Design and Construction, Plant Services and Protection Services) and specialized administrative and technical offices: this grouping includes the Offices of Audits, Computer Services, Equal Opportunity, Management Analysis, Personnel Administration, Printing and Photographic Services, Programming and Budget, Supply Services, Contracts, Travel Services, and the Office of the Treasurer. As a group, these organizational units receive appropriated funds and nonappropriated unrestricted Trust funds for their operating support in approximate balance to the funding of the Institution.

Some offices are funded entirely with nonappropriated Trust funds reflecting the nature of their work. These organizational units provide essential support and services to all programs and activities of the Institution. For FY 1982, an increase of four full-time permanent positions and \$561,000 is requested to meet a variety of program requirements in several administrative units. Necessary pay of \$144,000 and Workers' Compensation of \$163,000 are required for existing staff and an amount of \$93,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - Within this activity, the Office of the Secretary with the assistance of the Office of the Under Secretary is responsible for the overall management and administration of the Institution, including policy determination, program planning, legislation, financial management and the direction and review of performance of Smithsonian activities. The Office of the Assistant Secretary for Administration, including the Director of Facilities Services, is responsible for administrative and technical services.

The Office of the General Counsel provides legal counseling to the Smithsonian Board of Regents, the Secretary and top administration staff, and to all program and support offices on the administration of Smithsonian programs; coordinates and directs the conduct of Smithsonian involvement in litigation or other adversary proceedings; adjudicates administrative claims; and generally monitors all aspects of the Institution's operations for legal implications. The Office's caseload entails matters of administrative law, Constitutional law, the law of trusts, labor relations, civil rights, torts, contracts, real and personal property, taxes, estates, gifts, and intellectual property rights, as well as matters dealing with the laws of the states and of municipalities in which the Institution operates.

The Office of the Treasurer has the direct responsibility for the financial management of the Institution. This includes the direction of financial planning, accounting, payroll, financial reporting, administration of grants and insurance, management of certain auxiliary activities such as the museum shops, handling of bank relations, and oversight of investments. Components of the Office of the Treasurer include Accounting, Grants and Risk Management, and Business Management Offices.

The Office of the Coordinator of Public Information is composed of the Offices of Public Affairs, Congressional Liaison and Special Events. These offices are responsible for providing information about the Smithsonian and its programs to the general public and the Congress, for developing and overseeing legislation pertaining to the Institution, for monitoring legislation of general interest to the Institution, and for coordinating special events associated with exhibit openings, lectures and other presentations.

The Office of Audits, which reports to the Under Secretary, is responsible for performing all internal and external auditing functions of the Institution. The internal function includes responsibility for auditing on a recurring basis Federal programs as well as nonappropriated Trust funded activities of the Institution. The Office reports the results of audit findings and makes recommendations to aid Smithsonian management in program administration. The external audit function involves the audit of documentation in support of claims, cost proposals, and cost and pricing data arising from contracts, grants and other financial agreements funded by the Smithsonian. These audits are performed upon request of the Contracting Officer and as required by law.

The Office of Computer Services is responsible for analyzing needs, programming and maintaining automated administrative, collections management and research support systems. Working with Institution curators, historians,

scientists, and management personnel the Office assists them in applying computer techniques to the storage, assembly, analysis, and reporting of a wide variety of data required for museum and laboratory operations and for administrative and business needs.

The Office of Equal Opportunity plans, conducts and monitors a positive action program to provide equality in all Smithsonian employment practices and program activities. Major efforts include an affirmative action program, employee counseling, upward mobility, a women's program, a cooperative education program, and special efforts for minorities, women, the Spanish speaking, and disabled persons all aimed at ensuring, as directed by Smithsonian management, equality of opportunity.

The Management Analysis Office provides management staff assistance and advisory services in support of Smithsonian administrative operations. The Office performs studies of systems and procedures, prepares and distributes announcements and instructions governing operations, and conducts a forms management program.

The Office of Personnel Administration is responsible for providing personnel services, advice and assistance to managers and to employees of the Institution. These services include recruitment, staffing, position classification and wage administration, employee training and development, labor management relations, retirement counseling, employee benefits services, workers' compensation, equal opportunity, personnel policy evaluation and program development. Major efforts continue in the implementation of the Civil Service Reform Act of 1978.

The Office of Printing and Photographic Services is the Institution's central office for technical advice, guidance and production of all matters concerning photographic and printing activities in support of the curatorial, scientific, technical, and administrative programs. It also furnishes photographs, slides and transparencies with recorded lectures to the general public, schools, research foundations, and other museums and government agencies.

The Office of Programming and Budget formulates the consolidated Federal and nonappropriated Trust fund budgets for review and approval by the Secretary and the Board of Regents. Approved budgets are developed for submission to the Office of Management and Budget (OMB) and to the Congress, and the Office serves as liaison with both the OMB and the Congress on budgetary matters. Appropriated and nonappropriated Trust fund budgets are administered and monitored to help assure that program needs are met, budgetary goals are achieved, and that the Institution's accountability is maintained.

The Office of Supply Services is responsible for the policy, planning and coordination of the Institution's procurement, contracting, property management and supply program. It buys supplies, materials, contractual services, and equipment for research, curatorial, conservation, exhibits preparation, administrative, and other Smithsonian activities. The Office also maintains all property records and performs and oversees periodic inventories to ensure proper accountability, utilization and security. The Contracts Office assists in obtaining Federal grants and contracts for work which the Institution is qualified to perform, negotiates certain specialized contracts, and manages components of the Trust personnel benefits program.

The Travel Services Office plans itineraries and makes arrangements for travel in support of Institution research, curation and administration activities to ensure that travel is accomplished in the most efficient and economical manner possible.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an additional four full-time positions and \$561,000 are sought for the general counsel, accounting, coordinator of public information, computer, equal opportunity, supply, personnel, printing and photographic, and programming and budget functions to enable them to meet greater and more complex workloads and increased program requirements.

For the Office of the General Counsel an amount of \$42,000 is sought to fund two additional part-time employees and support costs. The Office of the General Counsel provides effective legal oversight of all Institution programs. The scope and volume of the workload in carrying out this broad function parallel the growth and direction of the diverse programs of the Institution, as well as developments in the law which affect Smithsonian operations. An amount of \$27,000 is sought to add one part-time attorney. With the increasing number of complex legal matters in specialized areas such as trusts, Federal contracts, Federal and state taxes, and environmental/conservation law requiring attention by staff attorneys, this addition is necessary to enable the Office to provide prompt and thorough legal services to the Institution. With funds received in FY 1981 to hire one additional full-time clerk typist, the Office was able to begin to remedy the problem of a shortage of administrative support staff. Presently, the Office has a staff of eight full-time and one part-time attorneys assisted by five full-time clerical staff members. An additional \$11,000 is requested to add one part-time clerk typist in order to provide timely support to the professional staff. A further \$4,000 is requested to lease an electronic typewriter which will assist in the preparation of legal documents.

For the Accounting Office, a total of \$105,000 is sought to continue the development of an integrated payroll/personnel management system (\$55,000); and to upgrade the Office's purchasing/payable system (\$50,000). Initial planning and development for the payroll/personnel management information system began in FY 1979 and will continue through FY 1981, culminating in a new system scheduled for installation in FY 1982. The delay in implementation results from the complexity of requirements that have become known more fully as study has progressed. The Accounting Office is responsible for collecting, storing, analyzing, and reporting financial information to all levels of Institutional management, as well as the General Accounting Office, Office of Management and Budget, and the Treasury Department. Much of the data is stored and accumulated in computer files. The current payroll system, more than ten years old, is not integrated with a personnel system--presently, these data must be reconciled manually. In order to meet effectively management needs and legislated requirements such as those stipulated in the Civil Service Reform Act, conversion to an advanced system is necessary. In FY 1981, an amount of \$25,000 of nonappropriated Trust funds was used to contract with a management systems firm to undertake a detailed study relating our personnel/payroll system requirements with the capabilities of systems currently available for purchase on the market. With the amount of \$55,000 requested for FY 1982, the Office will purchase computer time which will be required for test runs and for operation of the current system and the proposed new system in parallel while the integrated system is being tested and problems resolved.

A further amount of \$50,000 is sought to purchase additional computer time necessary to support ongoing computer applications such as the modifying and upgrading of an integrated purchasing/payable system which will result in increased internal procurement and payment controls, comprehensive reporting capabilities, cash management abilities, and increased productivity of technicians by automating numerous tasks now performed manually. Approximately \$255,000 is now spent on computer time (of which \$80,000 is nonappropriated Trust funds) in connection with biweekly payrolls, accounts payable and receivable, and a wide array of reports to some 60 organizational units to assist them in managing their programs and accounting for funds. Further, the

demand for a greater number of more sophisticated accounting reports by program managers throughout the Institution has also increased significantly the computer support requirements of the Office.

For the Office of the Coordinator of Public Information a total amount of \$75,000 is sought. The requested funds are needed for the Office of Public Affairs. This Office is responsible for making available to the public information about Smithsonian programs and activities. This is accomplished by preparing and issuing press releases and public service announcements for newspapers, radio, television, periodicals; by publishing a monthly calendar of events; and by operating a news service which provides feature articles on Smithsonian research in the arts, history and the sciences on a monthly basis for publication in some 1,500 newspapers throughout the country. In recent years these public information services have expanded substantially resulting in the Director having to devote an increasing portion of time toward managing ongoing activities rather than planning and developing new and improved methods to reach the public. For example, since FY 1979 the Office has added the Smithsonian News Service, the publishing activities associated with the monthly calendar of events, and has experienced a 40 percent increase in the number of press inquiries received. To meet this need, an amount of \$36,000 is requested to hire a deputy director, utilizing an existing vacant position, who will oversee day-to-day operations and assist the Director in meeting the increased workload of the Office. Further, in order to produce a sufficient quantity of "Welcome" brochures, a free publication for visitors which describes the entire Smithsonian, in English and foreign language versions, an amount of \$39,000 is requested. A total of 1,600,000 brochures is produced annually. Since FY 1978, printing costs per single copy have risen approximately 70 percent despite efforts to reduce costs by changing to less expensive paper, by closely controlling distribution, and by redesigning the brochure to a more compact format.

For the Office of Computer Services (OCS) a total of \$41,000 is sought. Of this amount, \$27,000 is requested to purchase additional computer software packages needed to meet increased programming and systems requirements in support of Institution research, collections management and administrative efforts. Presently, there is a ten workyear backlog in meeting systems and programming requirements associated with these functions, as well as others. Consequently, OCS customers are being supported at only about 45 percent of their requirements. The additional software packages will enable OCS to meet a higher percentage of demands from scientists and researchers by assisting them in developing specific applications in a more timely fashion. A further amount of \$14,000 is requested to provide funding for leased remote data entry terminals that tie directly into the central computer to permit direct data entry by users. This will save time and relieve OCS staff of this function.

An amount of \$57,000 is sought for the Office of Equal Opportunity to expand the Institution's cooperative education program aimed at placing qualified minorities and women in professional positions. Currently, base resources supporting these efforts are \$35,000 from Federal funds and \$35,000 excluding staff support from nonappropriated Trust funds. In FY 1981 under this program, 12 promising students (six funded from Federal and six from the Institution's nonappropriated Trust funds) will work full-time in a Smithsonian museum, laboratory, or other program or support unit under professional direction for part of the academic year while working toward a degree in a field relevant to the Institution. Upon completion of the program, these students may be offered full-time positions in the areas in which they qualify. Of the \$57,000 requested, funds of \$32,000 are sought to support two additional cooperative education students in the program. The remaining \$25,000 will be used for support of a part-time position to coordinate this program among the various

museums, and provide for the placement of additional public information articles and advertising in minority and women's media sources, and to expand community outreach activities such as presentations at minority and women's conferences.

For the Office of Supply Services a total of \$50,000 is sought. Of this amount, \$25,000 is requested to purchase additional computer services in support of automated procurement programs developed to meet mandatory Federal procurement data reporting requirements. The alternative would be manual handling of data for the preparation of purchase documents and reports which would require additional staff. As a result of automated procedures and improved efficiency this Office has had no increase in staff for three years despite a growing workload. A further \$25,000 will be used to purchase sufficient quantities of copier paper for the Institution to keep pace with increased demand resulting from the expanded program requirements of most organizations of the Institution.

For the Office of Personnel Administration, two additional full-time positions and \$75,000 are requested. Meeting the provisions of the Civil Service Reform Act of 1978 will continue to add substantially to the workload of the Office in FY 1982 when all aspects of the Reform Act are due to be in place. For example, the merit pay provision (Title IV of the Civil Service Act) calls for the development of a performance appraisal system which has required that all Smithsonian position descriptions be reviewed and, as necessary, revised to establish critical job elements and performance standards. Substantial progress in establishing systems to meet these requirements will be accomplished in FY 1981. The two additional positions are for personnel management specialists who are needed to administer the merit pay system and other provisions of the Civil Service Reform Act, to provide more personnel assistance to the larger and to the outlying bureaus of the Institution and for personnel to broaden special efforts toward recruiting and placement of minorities in professional occupations--a strong Institution-wide objective. These resources will enable increased efforts to be made toward managing expanded and detailed promotion and vacancy announcement activities, and provide staff support needed to administer the collecting and processing of minority applicant flow data in response to the Federal Equal Opportunity Recruitment Program and Uniform Guideline requirements.

For the Office of Printing and Photographic Services an amount of \$65,000 is requested. Of this amount \$35,000 is required to further Institution collections management efforts by accelerating the ongoing process of converting hazardous nitrate film into archival quality safety film (\$28,000 was provided in FY 1980 for this purpose). This important activity will result in the elimination of a potential fire hazard and the loss of valuable photographic images caused by the inherent irreversible deterioration associated with nitrate film. Funds will be used to purchase supplies, materials and contract services to continue this important process. Further, an amount of \$20,000 is sought for the Office to obtain contractual processing necessary to meet the increased demand for routine black and white photographic work such as print development, enlargements and duplications. In FY 1981, the Office will produce some 200,000 black and white prints and reproduction negatives, 50,000 more than in FY 1980. These funds will allow for an additional 20,000 to be produced. The remaining \$10,000 will be used to purchase computer services to aid in the development of a computerized photographic catalogue with visual reference capability. This catalogue will serve as an automated index to allow for more efficient retrieval of photographs by Smithsonian staff, outside scholars and general public users.

For the Office of Programming and Budget two positions and \$51,000 are requested to meet a budgetary workload that has grown significantly in the past few years as there has been increased focus on the Institution's financial management. Presently, the Office has an authorized base of 10 employees (five Federal and five funded from the Institution's nonappropriated Trust funds) consisting of seven budget analysts, a budget technician, a secretary and the Director. In addition to carrying out its regular budget formulation and oversight responsibilities for the entire Institution, the Office of Programming and Budget has been striving to integrate further the appropriated and nonappropriated Trust fund budgets and to reflect such integration in the Institution's budget submission and in internal management reports. The Office also has been working toward improving the automation of certain of its functions, including an automated salary projection system currently in place for Federal and being developed for Trust funded employees and an automated budgetary reporting format for construction funds. Of the proposed new resources, one new position and \$20,000 are for an additional budget analyst who is needed primarily to continue work on the integration of Federal and nonappropriated Trust fund budgets, and to strengthen budgetary review of the Institution's construction programs. An additional clerical position and \$11,000 are needed urgently to assist a secretary who presently provides typing and clerical services for the entire staff; and an amount of \$20,000 is needed for additional computer time. Presently the Office has a base of \$22,000 for computer time (\$20,000 Federal and \$2,000 Trust) and increases are being sought both in the Federal and nonappropriated Trust fund budgets for this purpose.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by allotments and are derived in part from overhead recovery on grants and contracts administered by the Smithsonian and from administrative fees charged to Trust funded activities. Funding of these centralized services from both Federal and nonappropriated sources produces a ratio of Federal and Trust fund administrative support approximately in proportion to the operating program expenditures of the Institution as a whole. The amounts shown under unrestricted general represent administrative expenditures before the application of overhead recovery of \$4,379,000 in FY 1980 and estimated recovery of \$5,000,000 in FY 1981 and \$5,200,000 in FY 1982. (Administrative costs and overhead recovery for the Smithsonian Astrophysical Observatory (SAO) are reflected within SAO's nonappropriated Trust funds section.) Also included, are expenditures of producing, distributing, and marketing photographic material and slide sets, and funds to help defray the costs of the Office of Printing and Photographic Services. Starting in FY 1981 the slide program has been cut back resulting in a cost reduction of \$245,000 between FY 1980 and FY 1981. Special purpose funds include a fluid research award and several small amounts used for seminars and related research as well as expenditures for the annual Christmas dance of the Smithsonian's Women's Committee, the net proceeds of which are distributed to individual bureaus for scientific research or educational projects. In FY 1981 funds were provided from the Institution's Collections Acquisition, Scholarly Studies and Education Program (approximately \$41,000) for the Institution's Cooperative Education Program. Starting in FY 1981, the Cooperative Education Program received a general allotment to continue the Program (estimated expenditures of \$100,000 in FY 1981 and FY 1982).

Restricted Funds - Included in this category are endowment bequests and foundation grants for ornithological and biological research and annuity payments to a former Under Secretary of the Institution.

Federal Grants and Contracts - In FY 1980, costs were incurred by the Office of Computer Services for external users of the Institution's computer system. No external use is anticipated for FY 1981 or FY 1982.

FACILITIES SERVICES

Summary and Highlights of Proposed Increases

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	911	29,734	12	803	--	93	--	--	--	--
FY 1981 Base	925	33,567	12	842	--	12	--	--	--	--
FY 1982 Estimate	935	37,092	12	964	--	--	--	--	--	--

*FTP = Full-time permanent positions

Analysis of Increase (Federal Request)

Necessary Pay.....292
 Inflation.....168
 Utilities and Rent.....2,160
 Program Funds.....905

The Facilities Services grouping consists of three units that report directly to the Director of Facilities Services: the Office of Design and Construction (formerly the Office of Facilities Planning and Engineering Services); the Office of Protection Services; and the Office of Plant Services. The FY 1981 base for Facilities Services' units totals 925 positions and \$33,567,000 (of which \$11,935,000 is for utilities, rent and communications). A program increase of 10 positions and \$905,000 is requested for FY 1982. Necessary pay of \$292,000 is required for existing staff and an amount of \$168,000 is sought to compensate for the effects of inflation in nonsalary areas of expense. An additional \$2,160,000 for utilities, postage, telephone, and rent costs is requested and justified in the Uncontrollable section. These funds are administered by the Office of Plant Services.

For the Office of Design and Construction, an increase of one position and \$98,000 is sought to keep pace with the Institution's growing architectural and engineering workload and to strengthen the management and operations of the Office. The Office of Protection Services is seeking a total of eight additional positions and \$430,000: seven positions and \$204,000 for urgently needed guard services; one position and \$17,000 for a security specialist whose main function would be to provide more timely investigations of criminal incidents; \$74,000 to strengthen fire, safety and health programs; and \$135,000 for correction of a base shortage. For the Office of Plant Services, an increase of one position and \$377,000 is requested. Of these proposed resources, \$350,000 is needed to provide and an adequate base for contractual services and emergency repair funds, and one position and \$27,000 are sought for administrative support of the Institution's vehicle management program.

The sources and uses of nonappropriated Trust funds are explained individually for each line item in this grouping.

OFFICE OF DESIGN AND CONSTRUCTION

(Dollars in thousands)

Fiscal Year		FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
				UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
				General		Special Purpose					
		FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual		35	948	7	177	--	--	--	--	--	--
FY 1981 Base		36	1,336	7	198	--	--	--	--	--	--
FY 1982 Estimate		37	1,465	7	208	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	36	1	37
Number of Other Positions.....	0	0	0
11 Personnel Compensation.....	1,035	58	1,093
12 Personnel Benefits.....	105	3	108
21 Travel & Trans. of Persons.....	12	1	13
22 Transportation of Things.....	2		2
23 Rent, Comm. & Utilities.....	21	2	23
24 Printing and Reproduction.....	20	3	23
25 Other Services.....	68	58	126
26 Supplies and Materials.....	26	4	30
31 Equipment.....	47		47
Total	<u>1,336</u>	<u>129</u>	<u>1,465</u>

Analysis of Increase

Necessary Pay.....	20
Inflation.....	11
Program Funds.....	98

ABSTRACT - The Office of Design and Construction (ODC), formerly the Office of Facilities Planning and Engineering Services, provides professional architectural and engineering services to the Institution in support of the maintenance, repair and improvement of its physical plant. Services include short- and long-range planning, design services, cost estimating, contract supervision, construction management and engineering. For FY 1982, an increase of one position and \$98,000 is sought, consisting of \$58,000 to allow for additional contractual architectural/engineering services, and one position and \$40,000 to strengthen the management and operations of the Office. Necessary pay of \$20,000 is required for existing staff and an amount of \$11,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Office of Design and Construction provides planning, engineering, architectural and related administrative services to the Institution and its facilities located in the Washington metropolitan area as well as at the Chesapeake Bay Center in Maryland, the Cooper-Hewitt Museum in New York, the Mt. Hopkins Observatory in Arizona, and the Tropical Research Institute in Panama. This work is performed by a staff of professional architects; electrical, mechanical, and structural engineers; and construction managers. Other staff members include architectural and engineering draftsmen, specification writers, and administrative support. The services provided by the Office include developing future year physical plant projects and budget estimates and facilities' master plans; preparing detailed designs and specifications of current year projects; supervising and reviewing architectural and engineering design contracts; conducting architectural and engineering studies and investigations of buildings' operating problems and functional deficiencies; supervising construction contracts awarded by the Institution's contracting officer; reviewing designs prepared by the museums' exhibit staffs to ensure their compliance with safety, health, accessibility and other technical standards; and maintaining a central library for cataloging, filing and identifying all plans, drawings and specifications related to Smithsonian buildings and properties.

During the past several years, ODC has experienced a steady growth in workload which reflects the Institution's priority to assure adequate maintenance of an aging and complex physical plant, to upgrade fire detection and suppression systems, to eliminate architectural barriers, and to correct unsafe conditions. The Institution's energy conservation program will depend increasingly on ODC for assistance with projects designed specifically for the purpose of reducing energy consumption. Major renovations of heating, ventilating and air conditioning systems in Smithsonian buildings are needed in order to assure energy efficiency and to accommodate environmental conditions necessary for the preservation of the collections. The development of the outlying facilities also will require continued support from ODC, as will building alterations to meet changing program emphasis. ODC's workload is directly related to the Institution's Restoration and Renovation of Buildings account (R&R). In FY 1980, the R&R appropriation totaled \$5.3 million; in FY 1981, the R&R appropriation totaled \$7.5 million; and the R&R budget request for FY 1982 is \$8.5 million. This increase in the R&R program will demand a significant increase in support from all functional areas within ODC, as will the development plans for future year needs.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of one position and \$98,000 is sought to keep pace with the heavy workload of the Office and to strengthen the management of construction projects.

In order to hold down the need for additional permanent staff and to provide expertise needed for special problems beyond the capability of the staff, or which do not warrant full-time employment of a highly specialized architect or engineer, an additional amount of \$58,000 is requested for contractual architectural/engineering services. The new funds being sought build upon a base of \$40,000 available for contractual architectural/engineering services. The use of contractual services provides assistance to the Office in the development of facilities' master plans, feasibility studies, cost estimating, preliminary planning and energy conservation studies and similar efforts not directly involved in specific R&R projects.

An additional position and \$40,000 are requested for an architect/engineer who will assist the Director in carrying out the responsibilities of the Office. The increased volume and complexity of the projects being accomplished by this Office, including the need for frequent personal contact with building

directors, several review groups, and others, have diminished significantly the Director's available time for internal direction and coordination. The additional position being sought will concentrate mainly on the daily operation of design and contract activities. The staff of ODC presently consists of 26 architects/engineers who work on an average of 175 projects annually. The addition of an experienced architect/engineer to the management of the Office will help to ensure that projects are carried out as efficiently and effectively as possible.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by an allotment and are used primarily to cover the salary and benefits costs of seven employees in FY 1981 (approximately \$188,000) and in FY 1982 (approximately \$197,000) in recognition that the Office provides services to Trust funded as well as Federally funded projects.

OFFICE OF PROTECTION SERVICES

(Dollars in thousands)

Fiscal Year	FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
			UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
			General		Special Purpose					
	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual	555	10,471	--	18	--	69	--	--	--	--
FY 1981 Base	563	11,437	--	6	--	12	--	--	--	--
FY 1982 Estimate	571	12,107	--	6	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	563	8	571
Number of Other Positions.....	40	2	42
11 Personnel Compensation.....	9,609	511	10,120
12 Personnel Benefits.....	928	50	978
21 Travel & Trans. of Persons.....	16	4	20
23 Rent, Comm. & Utilities.....	6		6
24 Printing and Reproduction.....	3		3
25 Other Services.....	434	65	499
26 Supplies and Materials.....	276	30	306
31 Equipment.....	160	10	170
42 Insur. Claims & Indem.....	5		5
Total	<u>11,437</u>	<u>670</u>	<u>12,107</u>

Analysis of Increase

Necessary Pay.....	171
Inflation.....	69
Program Funds.....	430

ABSTRACT - The Office of Protection Services (OPS) is responsible for security, fire protection, safety, and health programs of the Smithsonian. For FY 1982, an increase of eight positions and \$430,000 is requested, consisting of: (1) \$204,000 to hire seven uniformed guards for four museums where the shortage of guards is particularly severe, to provide part-time security guards and to compensate for the cost of overtime pay for guards; (2) \$17,000 to hire a security specialist to provide more timely investigations of criminal incidents and to perform pre-employment background verifications; (3) \$34,000 to hire temporary employees to improve the fire and safety programs; (4) \$40,000 to establish a health unit in the American Art/Portrait Gallery Building and to purchase medical equipment for a program to test employees for exposure to asbestos; and (5) \$135,000 to provide adequate base funds to the Office. Funds

in the amount of \$171,000 are required for necessary pay for existing staff and an amount of \$69,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Office of Protection Services provides security, fire protection, safety, and health services for visitors and staff of the Smithsonian Institution. The authority of OPS to administer these programs derives from P.L. 82-206 and P.L. 88-391, which relate to the policing of Smithsonian buildings and grounds, and in P.L. 91-596 and Executive Order 11807, which relate to occupational health and safety.

OPS provides the full range of protective services, 24 hours a day, every day of the year in 11 major museums, and art galleries, and other facilities in Washington, D.C. and at the Cooper-Hewitt Museum in New York City. More than 5,000 employees work in these facilities, and more than 27 million visitors pass through them each year. The Office provides technical assistance and advisory services to all Smithsonian bureaus, and occupational safety and health programs for the National Zoological Park, the Smithsonian Tropical Research Institute, the Chesapeake Bay Center for Environmental Studies, and the Smithsonian Astrophysical Observatory.

The security force operates 24 hours a day, seven days a week. Uniformed guards, K-9 officers and plainclothesmen are assigned in the galleries, around the grounds, and at entrances and exits during the day and night. They conduct security and fire patrols after the museum buildings are closed to the public, and they also investigate accidents, report fire and safety hazards and malfunctions associated with mechanical and electrical equipment, and provide information to museum visitors. Special efforts are being made in 1981 to curtail crime by increasing the number of K-9 teams and by using part-time security personnel.

Security officers basically are responsible for areas designated as "posts." A post may be one point (for example, a museum entrance) or an area varying in size and determined by its use, crowd conditions, the value of objects on display, the vulnerability of those objects to accidental damage, vandalism, or theft, the effective field of vision of the assigned protection personnel, and the ability to use electronic devices. The number of guards required to staff one post may vary from one (a post staffed eight hours a day, five days a week) to five (a post staffed 24 hours a day, seven days a week).

Additional protection is provided by an extensive radio, telephone and alarms network. An average of over 225 alarms is received daily, and each alarm demands immediate response. The communications network enables security officers to respond quickly to all emergencies and to coordinate their activities.

The security force is supported by a professional and administrative staff which includes training specialists, safety specialists, fire engineers and inspectors, a doctor, nurses, alarm systems specialists, and investigators. This staff provides in-depth reviews and formulates long-range plans for improved security and safety.

Fire and safety programs include quarterly fire inspections of each facility and annual safety and industrial hygiene inspections. These have resulted in long-range plans for installations of new and upgraded fire systems for compliance with safety regulations. Fire safety presentations are made to approximately 80 percent of Smithsonian staff each year. The safety staff works to eliminate hazards of accidents and occupational illness. Locations in which asbestos has been discovered are monitored carefully and a coordinated effort to eliminate the dangers of cellulose nitrate film in the Institution's collections has begun.

A medical staff operates four health units for the convenience, assistance, and emergency needs of visitors and staff. In FY 1980, the health units treated 22,013 patients, an average of almost 61 a day. Among the treatments administered were immunizations for seasonal diseases, examinations for occupational illnesses, and screening tests for chronic illnesses such as diabetes and hypertension.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, an increase of eight positions and \$430,000 is requested to meet several protection, health and safety related needs of the Institution and to provide adequate base funding for the Office.

Protection (\$221,000) - An increase of eight positions and \$221,000 is requested to expand guard coverage of Smithsonian museums and galleries and to meet a pressing security need. Currently, there are 493 uniformed guards to staff the 11 major museums in the metropolitan Washington, D.C. area and the Cooper-Hewitt Museum in New York City. Thorough evaluations of the Institution's protection requirements indicate that existing facilities are understaffed by 55 full-time permanent guards. This staffing shortage poses a very serious threat to the safety and security of the Smithsonian's visiting public, staff and valuable collections, and also creates an inconvenience for visitors when galleries must be closed because not enough guards are available to protect them. Galleries were closed eight times in 1980. The Institution's Five-Year Prospectus FY 1982 - FY 1986 calls for the phased elimination of the Office of Protection Services' staffing shortage.

For FY 1982, seven new uniformed guard positions and \$89,000 are sought. These positions will be assigned to the museums where the guard shortage is most severe; namely, the National Museum of Natural History/Museum of Man, the National Museum of American History, the National Museum of American Art, and the National Portrait Gallery. Faced with continuing severe personnel shortages, OPS has been forced to rely on the services of part-time security guards and of guard overtime, and an amount of \$115,000 is requested for these purposes.

Finally, in the protection area, one additional position and \$17,000 are sought for a security specialist. During 1980, the number of felonious incidents and misdemeanors committed reached 368, an increase of 41.5 percent over the previous year. In that time the number of cases requiring investigation by the Security Services Division increased from 95 to 172. The increasing number of criminal incidents in FY 1980 is consistent with national trends. Many of these incidents might have been avoided if uniformed guards did not have to be relocated from posts at shipping entrances and other administrative areas to museum galleries in order to keep them open to the public. OPS presently has five security specialist positions. An additional security specialist will enable the Office to provide more timely investigations of criminal incidents and to improve its program of pre-employment background verifications.

Health and Safety (\$74,000) - An increase of \$74,000 is requested to improve OPS's safety and health programs. The Office's fire and safety programs constitute a vital part of OPS' mission and include regular fire inspections of all facilities and annual safety and industrial hygiene inspections. With a staff of two fire and three safety inspectors it is not always possible to meet the regular inspection schedules. An additional \$34,000 is sought for two temporary positions for a fire prevention inspector and a safety specialist. The fire prevention inspector will be responsible for examining portable fire extinguishers and sprinkler control valves and for assisting with fire inspections and training. The safety specialist will be responsible for assisting

with follow-up inspections, inventories, and simple test procedures. This individual also will provide assistance for the safety glasses, foot protection and safety training programs.

A further amount of \$40,000 is requested for the Health Services Division to establish an additional health unit and to purchase needed medical equipment. The proposed new health unit will be located in the American Art/Portrait Gallery Building and will serve visitors and staff members of the National Museum of American Art, National Portrait Gallery, Museum of African Art, and Smithsonian Institution Service Center. Currently, visitors and staff at these buildings must use other health units in the Institution, the nearest of which is located in the National Museum of Natural History/Museum of Man. Employees in these buildings are often unable to participate in special health services programs such as screening tests for chronic illnesses. The proposed new equipment is required in order to test employees who were exposed to asbestos on the job.

Base Shortage (\$135,000) - In the FY 1979 Congressional budget submission, the Institution proposed to redirect base resources of \$110,000 to help fund a program to upgrade selected groups of positions on the security force. An Institutional study of guard salaries in the area found the upgradings essential in order for the Institution to maintain a quality security force. Funds to provide for the upgradings, in part, were provided by the Congress. Additional funds for the upgradings were to be redirected within the OPS' base by reducing the term of the extended summer museum hours. The Institution's Board of Regents, at its January 22, 1979 meeting, suggested however that the Institution reconsider its decision to reduce summer hours in view of the Board's wish to maintain maximum public accessibility to the museums. Since it was necessary to move ahead with the planned upgrading of uniformed guard positions, OPS has experienced a base shortage of approximately \$135,000 a year during the past two years, as indicated in the Smithsonian's annual reprogramming report to the Congress. An amount of \$135,000, sought for FY 1982, will correct this situation.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by an allotment and from reimbursements for the use of guard services at special events and lectures at Smithsonian facilities. The funds are used for the purchase of supplies, materials and equipment.

OFFICE OF PLANT SERVICES

(Dollars in thousands)

Fiscal Year		FEDERAL FUNDS		NONAPPROPRIATED SOURCE OF FUNDING							
				UNRESTRICTED				RESTRICTED		FEDERAL GRANTS & CONTRACTS	
				General		Special Purpose					
		FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount	FTP*	Amount
FY 1980 Actual		321	18,315	5	608	--	24	--	--	--	--
FY 1981 Base		326	20,794	5	638	--	--	--	--	--	--
FY 1982 Estimate		327	23,520	5	750	--	--	--	--	--	--

*FTP = Full-time permanent positions

Detail of Federal Funding

	Base FY 1981	Proposed Adjustments	Est. FY 1982
Number of Permanent Positions.....	326	1	327
Number of Other Positions.....	12	0	12
11 Personnel Compensation.....	7,031	117	7,148
12 Personnel Benefits.....	645	11	656
21 Travel & Trans. of Persons.....	9	2	11
23 Rent, Comm. & Utilities.....	11,968	2,160	14,128
24 Printing and Reproduction.....	8		8
25 Other Services.....	550	100	650
26 Supplies and Materials.....	468	338	806
31 Equipment.....	115	-2	113
Total	<u>20,794</u>	<u>2,726</u>	<u>23,520</u>

Analysis of Increase

Necessary Pay.....	101
Inflation.....	88
Other Uncontrollables.....	2,160
Program Funds.....	377

ABSTRACT - The Office of Plant Services (OPlantS) operates, maintains and repairs 11 museums and art gallery buildings and a number of other work and collection storage areas located in the Washington Metropolitan Area. It provides utilities, transportation, mail and telephone services in support of research, exhibit, education, and other public programs. In addition, technical service and assistance are made available to other Smithsonian units located outside of the Washington, D.C. area. For FY 1982, an increase of one position and \$377,000 is sought for the following requirements: (1) \$350,000 to provide an adequate base for contractual services and for emergency repair funds; and (2) one position and \$27,000 to provide necessary support to the Smithsonian vehicle management program. Necessary pay in the amount of \$101,000 is required

for existing staff, and an amount of \$88,000 is sought to compensate for the effects of inflation in nonsalary areas of expense. An additional amount of \$2,160,000 for utilities, postage, telephone, and rent costs is being requested in the Uncontrollable section.

PROGRAM - OPlantS operates, maintains and repairs the Smithsonian's physical plant on or near the Mall, including approximately 2.6 million net usable square feet in 11 museums and art galleries. Services also are provided to other work and storage areas including space in leased facilities. Operational responsibilities for utilities funding and management include the maintenance of large and complex air conditioning, heating and ventilating systems and electronic environmental controls and systems for the comfort of visitors and for the protection of buildings, natural history and anthropological specimens and objects, paintings, sculptures, and objects of American history and technology.

Trade and craft assistance, such as carpentry, painting, plumbing, sheet-metal and electrical work, is provided to hundreds of research projects, exhibition installations and special public events every year. Packing, crating, warehousing, and moving services are carried out for museum objects and collections. OPlantS also has responsibility for communication systems including the management and funding of telephone installations and services (Federal Telecommunications Network System and local calls), and the processing of and payment for mail. Transportation services, including the responsibility for vehicle management and the maintenance, repair and operation of vehicles, are carried out by the Office as well.

In FY 1980 and FY 1981, major effort was directed toward continuing improvements in project planning and estimating capabilities. With an ever increasing workload, a retraining program of OPlantS' planner/estimators was instituted to bring their capabilities in line with the latest techniques of the job. Long-range scheduling, which was instituted in FY 1980, has assisted in providing more accurate information about when work would be accomplished and has aided in carrying out emergency projects without delaying previously scheduled work. Productivity of trade and craft shops, accordingly, has been improved.

In FY 1979, OPlantS completed the installation of a Computerized Preventive Maintenance System for scheduling preventive maintenance requirements for all fire prevention, automatic lighting, guard stations, and heating, ventilating and air conditioning mechanical equipment in the major Smithsonian buildings. In FY 1980 and early in FY 1981, this system continues to be expanded to include the mechanical equipment for the Museum of African Art, lighting and electrical distribution panels for all Mall buildings, roofing systems on all buildings, and the Computerized Facilities Monitoring System. Planned additions for FY 1981 are filter changes for all mechanical units, all emergency diesel generators, and the addition of plumbing and fire alarm and sprinkler maintenance tasks. In FY 1980, the Computerized Preventive Maintenance System issued 2,411 maintenance orders to be accomplished; 2,318 or 96 percent of them were completed.

FY 1980 also saw the continuation of efforts to improve the utilization of space in Smithsonian warehouse facilities at Suitland, Maryland and 1111 North Capitol Street. Two buildings at Suitland, used as warehouses, and the second floor at North Capitol Street were redesigned using racks and platforms and by crating as many artifacts as possible. This redesign not only led to better space utilization but improved collection accessibility and safety.

Also in FY 1980, the Smithsonian converted to a new telephone system. This project required nearly three years of planning. The new telephone system provides the Smithsonian with unlimited availability of future telephone numbers, and eliminates future space needs for a telephone system expansion since all expansion will be on C&P Telephone Company premises instead of on the Smithsonian's.

The Computerized Facilities Monitoring System which analyzes the operation of various mechanical equipment in major Smithsonian museums, completed in FY 1980, is working well. This system uses sensors on over 3,900 pieces of equipment and automatically alerts a central computerized control center to equipment malfunctions.

OPlantS also plays a major role in contributing to the overall Smithsonian energy conservation efforts, discussed more fully in the Uncontrollable section on page A-7.

EXPLANATION OF PROGRAM INCREASE - For FY 1982, a total increase of one position and \$377,000 is sought. An amount of \$350,000 is requested to provide adequate base funds for the contractual services used extensively by the Office of Plant Services in maintaining Smithsonian buildings and for emergency repairs to mechanical systems. The cost of the elevator maintenance contract increased from \$223,000 in FY 1979 to \$258,000 in FY 1981; the trash removal contract increased from \$26,000 in FY 1979 to \$33,000 in FY 1981, an increase of 27 percent; OPlantS' power management and equipment monitoring computer maintenance contract increased from \$13,000 in FY 1979 to \$22,000 in FY 1981; and the uniform cleaning contract increased from \$33,000 in FY 1979 to \$50,000 in FY 1981, an increase of 52 percent. Similar increases are expected in FY 1982 as these contracts go through their annual open market competitive bidding process. Reductions in the scope of the contracts are impossible without severely endangering the safety and health of visitors and staff, and the operation of Smithsonian buildings. Also, during the course of any year, emergency repair contracts are necessary to correct problems which arise due to the age of equipment, and natural conditions such as wind, rain and snow. Funds to cover such repairs as broken pipes, broken windows and doors, emergency repairs to transformers refrigeration compressors and hydraulic lifts have long since been eroded by inflation in the cost of basic materials. Such repairs range in cost from a few hundred to a few thousand dollars, and are considered normal maintenance responsibilities appropriate for the Salaries and Expenses account.

In FY 1980 and in FY 1981, when funds were needed to cover the cost of contractual services or to pay for emergency repairs, they were obtained through deferring the purchase of needed supplies or through reprogramming. Both methods are unsatisfactory in that they result in long-term inefficiencies and cutbacks to planned programs of the various bureaus.

Funding shortages also exist in the amounts available to purchase basic supplies necessary to operate the Smithsonian physical plant as a result of sharp cost increases experienced over the past several years which are anticipated to continue. For example, the cost of gasoline has risen from \$35,000 in FY 1979 to an estimated \$55,000 in FY 1981, even though a reduction is planned in total mileage driven; a carton of plastic bags used for trash collection has risen from \$13.40 in FY 1979 to \$22.65 in FY 1981; detergent has risen from \$270.60 a drum in FY 1979 to \$278.44 a drum in FY 1981; floor stripper rose from \$321.20 a drum in FY 1979 to \$349.80 a drum in FY 1981; terry cloth increased from \$84.00 a bolt in FY 1979 to \$105.00 a bolt in FY 1981. Similar increases in almost all mechanical, custodial and craft supplies used in the day-to-day operation, maintenance and repair of our physical plant have been experienced over the past several years.

The cost of annual contracts and supplies has risen drastically and, by far, has outstripped the amount of funds sought by OPlantS for inflation. Currently, an amount of \$1,018,000 is available to OPlantS for contractual services, for emergency mechanical repairs, and purchase of supplies. The addition of \$350,000 will allow the Office of Plant Services to meet its contractual obligations and to fund emergency repairs and purchase related supplies without affecting other planned programs.

One new position and \$27,000 is requested for administrative support of the Institution's vehicle management program. Presently, the Institution has 238 vehicles of various types, including those ranging from sedans to tractor trailers. Recognizing the vastly increased cost of acquiring, maintaining and operating vehicles, and the importance of holding down use of fuel, the Smithsonian established a formal vehicle management program in September 1980. Among the objectives of the program are, limiting the size of the fleet to the minimum level necessary and providing for regular maintenance and compliance with appropriate government regulations. Two positions are needed for effective oversight of the program. One position was redirected from the parking program when this responsibility was transferred to the Business Management Office upon the advent of paid employee parking. The second position and \$27,000 are sought for FY 1982 to provide analytical oversight of the vehicle management program.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by an allotment to cover the cost of five employees (\$100,000 in FY 1981 and \$118,000 in FY 1982) and to provide for the payment of the Trust fund share (approximately 40 percent) of the Smithsonian's annual Federal Telecommunications Network System and for the Trust fund share of rental costs for administrative units located in L'Enfant Plaza (\$510,000 in FY 1981 and \$593,000 in FY 1982). Special purpose funds include the costs of operating the Audiovisual Unit. These costs are offset by user reimbursements. In FY 1980, funds also were provided from the Institution's Collections Acquisition, Scholarly Studies and Education Program (\$30,000) for the acquisition of audiovisual equipment to be used in the operation of the Audiovisual Unit. No other funds are anticipated from this source in FY 1981 and FY 1982.

TAB B

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

1980 Appropriation.....\$4,200,000	}	Equivalent in Excess Foreign Currencies
1981 Appropriation.....\$3,650,000		
1982 Estimate.....\$5,500,000		

An appropriation of \$5,500,000 equivalent in foreign currencies which have been determined by the Treasury Department to be in excess of the normal needs of the United States is requested for FY 1982. The appropriation will be used:

--to continue a program of grants to United States institutions for research in the program areas listed below in those countries where excess local currencies are available. Of the total \$3,500,000 requested for research, \$2,300,000 will be available for one-year funding to continuing projects; \$700,000 will support new projects, and \$500,000 will provide multi-year funding of projects for which assurance of funding continuity is important;

--for a third installment to the forward-funded reserve in support of future programs of the American Institute of Indian Studies (AIIS). An appropriation of \$1,000,000 equivalent in Indian rupees is requested in FY 1982 to be added to the amount of \$500,000 equivalent appropriated in FY 1980 to initiate this program and an amount of \$750,000 appropriated in FY 1981; and

--for a United States contribution to the international effort organized through UNESCO to restore and preserve the Indus civilization city of Moenjodaro in Pakistan. Funding of \$1,000,000 equivalent in Pakistani rupees is requested in FY 1982.

Obligations of Funds by Program Area
(dollar equivalents)

	<u>FY 1980</u> <u>Actual</u>	<u>FY 1981</u> <u>Estimate</u>	<u>FY 1982</u> <u>Estimate</u>
Archeology and Related Disciplines /1	\$3,644,000 /1	\$2,638,000 /1	\$4,600,000 /2
Systematic and Environmental Biology	418,000	502,000	531,000
Astrophysics and Earth Sciences	89,000	143,000	121,000
Museum Programs	257,000	309,000	228,000
Grant Administration /3	41,000 /3	20,000 /3	20,000 /3
NSF Science Information Program (Translations) /4	243,000 /4	100,000 /4	100,000 /4
Total	\$4,692,000	\$3,712,000	\$5,600,000

/1 Includes obligation for AIIS forward-funded reserve: FY 1980, \$500,000; FY 1981, \$750,000; FY 1982, \$1,000,000. In appropriating special foreign currencies for FY 1981, the Congress allowed the Smithsonian flexibility in applying priorities to program areas. Depending upon demands in the grants program during the fiscal year, the Smithsonian may exercise the flexibility allowed by obligating less than the maximum of \$750,000 equivalent for the forward-funded reserve.

/2 Includes obligation for U.S. contribution for Moenjodaro.

/3 Includes transfers to the State Department for "Foreign Affairs Administrative Support."

/4 Includes transfers to the NSF Science Information Program for translations.

PROGRAM OF GRANTS FOR RESEARCH

The purpose of the Smithsonian Foreign Currency Program is, like that of the Institution itself, "the increase and diffusion of knowledge." The Smithsonian Foreign Currency Program supports this purpose by making grants to United States universities, museums, and other institutions of higher learning, including the Smithsonian itself, primarily for research and advanced professional training in fields of traditional Smithsonian competence. An appropriation of \$3,500,000 equivalent in excess foreign currencies is sought for these grants.

The Smithsonian Program is a major source of excess foreign currency support for research carried out by United States institutions in the excess currency countries. The Smithsonian Program is distinguished from other Special Foreign Currency Programs in that the full responsibility for the design, execution and publication of research results rests with a scholar working within the Program of a United States institution.

The Smithsonian Program strengthens the research and training activities of collaborating institutions abroad, for most projects directly involve host country institutions and scholars. Enduring professional ties which result from joint efforts and scholarly exchange contribute to the strongest form of United States cultural relations with other nations. These ties contribute to the integration of the worldwide advancement of science which serves to narrow the gap between the industrial and the developing nations.

The Importance of Research in the Natural Sciences and Cultural History

The density of world population and the impact of technological development make it important to understand their effects on the natural environment and on society. Research sponsored by the Smithsonian in the natural sciences and in cultural history is aimed at improving understanding of the environment, of the management and protection of scarce resources, and of the cultural setting within which social changes take place.

Grants awarded by the Smithsonian in systematic and evolutionary biology have contributed to the understanding of the individual and the surrounding environment. In FY 1980, grants supported the following projects of special interest:

--continuing study of the fossil mammal fauna of Pakistan contributes to understanding the timing of the closing of the Tethyan Sea; and the collision which joined Indo-Pakistan to central Asia;

--study of interdependent organisms in some tropical Indian lakes is leading to the development of management principles for biological productivity in fresh water bodies; and

--paleontological investigations in the Fayum Depression in Egypt suggest that man's 30 million year old ancestors were already developing the intelligence to deal with complex social surroundings.

In astrophysics and earth sciences, contributions were made to the study of the earth and its management. For example:

--data from surface surveys and Landsat photographs of the Western Desert of Egypt have uncovered startling similarities to photographs taken of Mars, opening new possibilities for geological interpretation of Mars' topography.

Smithsonian grants in cultural history and in museum programs contribute to the understanding of the individual and society and foster understanding of diverse cultures. In FY 1980, grants supported the following projects:

--Study of women's roles in rice cultivation in India is providing important insight for economic development of the industry; and

--Indian and Egyptian folk puppeteers participated in the World Puppetry Congress in Washington and toured several United States cities promoting added understanding of the cultures of Asia and Africa.

Further, with greater emphasis on information exchange through small workshops, symposia and field conferences, the Smithsonian hopes to promote international research in specialized areas, such as environmental research, wildlife and ecosystem studies, and museum techniques. In FY 1980, for example, United States scholars received support for participation in exchanges on the subjects of quaternary geology, the origin of early food producing cultures and the establishment of science museums.

The Importance of Multi-Year Grants

Since the inception of its Special Foreign Currency Program, the Smithsonian practice has been to provide funding on an annual basis for most of its grantees even though approved proposals are frequently of a multi-year nature. This has been done because until FY 1979 the Smithsonian appropriation was sufficient only to allow for occasional multi-year grants. (Multi-year funding is the standard practice of other Special Foreign Currency Program agencies.) Beginning in FY 1979, multi-year funding of major programs on a regular basis has been possible. Such funding is important for several reasons: Rational planning requires the advance commitment of professors and graduate students, as well as of facilities. The broad objectives of the participating institutions also depend on the coordination of such resources. Multi-year grants, with annual disbursement subject to a finding by Smithsonian advisory councils that satisfactory progress in the prior year has been made, are essential to provide reasonable assurance of funding to these institutions. Further, the Smithsonian has found it necessary to undertake multi-year funding on those occasions when it was essential to protect investments in successful projects against the possibility that some excess currency accounts would be exhausted. This happened in Poland and Tunisia in FY 1977 and will occur in Egypt after FY 1981. With multi-year funding over a three-year period, 10 projects in Egypt will be brought to reasonable conclusions in FY 1981 and three continuing projects will have gained sufficient time to find other funding sources.

Benefits to United States Institutions

Since the inception of the program in FY 1966, Smithsonian grants have been made to 216 United States institutions in 40 states and the District of Columbia to support approximately 700 individual projects. Publications known to have resulted from program grants totaled more than 1,300 at the end of FY 1980.

Collections of original biological specimens and the archeological and ethnographic materials are acquired in the course of field research. They remain available for further study and interpretation by other generations of scholars long after the research teams supported by the Smithsonian have dispersed and their conclusions have been published. More than 100 such research collections have been placed in United States universities and museums. A similar number of collections have been added to the research resources of the excess currency countries.

The benefits of the program have extended to a far larger number of institutions than the 216 United States institutions which have received grants directly. For example, three of the grantee institutions are consortia of United States scholarly institutions. They are the American Institute of Indian Studies (AIIS) in Chicago, Illinois, with 34 institutional members; the American Research Center in Egypt (ARCE) in Princeton, New Jersey, with 26 institutional and approximately 600 individual members; and the American Schools of Oriental Research (ASOR) in Cambridge, Massachusetts, with 135 member institutions.

Smithsonian grants have supported the research in India of 365 AIIS fellows over the 13 year period from FY 1968 through FY 1980. The fellows were drawn from 48 United States institutions in 22 states. Program grants have also supported more than 60 ARCE projects over the 15 year period from FY 1966 through FY 1980, and since FY 1977, 45 ARCE fellows have received Smithsonian support. Nine ASOR excavations in Israel and in Tunisia provided research opportunities for more than 260 senior United States scholars and field training for more than 324 graduate students. The Indo-American Fellowship Program, initiated in FY 1977 under the auspices of the Indo-U.S. Subcommittee on Education and Culture has sent 36 scholars from United States institutions to India.

Scientific Review under the Smithsonian Program

The Smithsonian Program considers proposals from any qualified American institution for research in fields of traditional Smithsonian competence. The program seeks the advice of experts in the specific area of sciences to be studied in reviewing the proposals and annually convenes advisory councils of senior scholars from across the nation. Following the recommendation in the House-Senate Conference Report 95-1672 dated September 29, 1978, the National Science Foundation reviews the credentials of the members of the advisory councils and certifies their competence. The councils discuss and evaluate the proposals, taking into consideration the experts' opinions, and provide specific advice to the Smithsonian regarding the selection of proposals recommended for support and the priority among them.

Foreign currency awards to other institutions are executed as normal Federal contracts, with the American grantee institutions providing for full fiscal accountability. The Smithsonian audits each grantee's periodic financial reports and, where grantees maintain records abroad, conducts site audits to ensure that appropriate accounting procedures are followed.

Whether funded originally on a multi-year or on a one year basis, projects lasting more than one year are subject to an annual review of scientific progress by the advisory councils before another year of funding is approved. In addition, Smithsonian staff scientists and program advisory council members visit projects in the field when firsthand scientific reports are considered necessary. Smithsonian policy requires that grantees publish scientific results and that scientific collections be readily accessible to the scholarly community.

The Importance to the Smithsonian of Awards for Research

Access to funds for independent research is an essential factor in enabling the Smithsonian to attract and retain leading researchers and thereby to maintain a standard of excellence as a research institution. These funds also allow the staff to pursue their own research interests in countries which are of interest in the natural sciences and cultural history. In this context, the Institution's initial request in FY 1966 for an appropriation of excess foreign currencies made it clear that Smithsonian scholars would compete for these funds. The appropriation justification in that year stated that the Institution

would "...award and administer foreign currency grants...for maximum benefit of all participating institutions, as well as the Smithsonian." This appropriation has provided Smithsonian scientists an opportunity to pursue new and innovative research.

Under the Special Foreign Currency Program guidelines, Smithsonian proposals are reviewed by the same councils of distinguished scholars as are proposals from other institutions. Continuing projects also are subject to annual reviews. (These processes are described above in the section entitled "Scientific Review Under the Smithsonian Program.") The Special Foreign Currency Program awards to Smithsonian employees, as to other scholars, often involve participants from other organizations and universities as collaborators. No Smithsonian employee, nor any other grantee, receives personal compensation to duplicate or supplement his salary. Program awards cover only field research costs in the excess currency country and travel to that country.

The awards to Smithsonian employees are executed as normal Federal allotments to the individual bureaus of the Institution for the support of approved employee research projects. Such funds are expended in accordance with Federal procurement and personnel regulations.

FORWARD-FUNDED RESERVE FOR THE AMERICAN INSTITUTE FOR INDIAN STUDIES

Founded in 1961 by a consortium of 15 United States universities and colleges, the American Institute of Indian Studies' (AIIS) purpose is to promote American scholarship at the pre- and post-doctoral levels on India in all recognized fields of the humanities and the social and natural sciences. Funding for United States administration is raised through dues paid by member institutions and from foundation grants from several sources. As of 1980, the number of consortium members has grown to 34 with about 100 fellows in India at any given time in a variety of programs. Funding for research and local administration in India is primarily through the Smithsonian, with lesser amounts being contributed by the Department of Education (language teaching programs only), National Science Foundation (fellowships in specific disciplines), International Communications Agency (fellowships), and the Ford Foundation.

The Smithsonian and the AIIS share common purposes: education and scholarship; global intellectual understanding; and the promotion of research. Research at the Institute takes several forms: individual research in any recognized field; joint projects such as the one resulting in the publication of the Encyclopedia of India's Philosophies; long-term projects, one of which has been the continuing project at the Center for Art and Archeology at Benares which will make available an archive of photographs, largely of Indian temples and monuments, for students and the scholarly public; and language teaching programs, now given in six of the 14 major Indian languages.

Through its competitive grants program, the Smithsonian has provided annual funding to the AIIS for fellowships, research, symposia, publications, and administrative costs. The Smithsonian has helped sustain this Institute and other American research centers abroad for more than a decade because of their significant contributions to scholarship and science without regard for national boundaries and their special service to American scholars conducting research.

While the amount of Indian currency available to the United States government is still large, it is a finite fund in inactive accounts. With inflation rates in India at a high level, it will probably disappear more quickly than has been anticipated. Various estimates are offered for when this may occur; some suggest as early as five years hence. Since the end of "excess" currency status historically has happened suddenly, the Institution proposes to reserve funds for the AIIS to avoid a situation similar to the one which developed in Egypt.

(In late 1978, funds for new American research in Egypt dried up suddenly, placing in doubt the future of American archeology and cultural history studies there and jeopardizing the continued existence of the very successful Cairo Center of the American Research Center in Egypt.)

By building a substantial foreign currency reserve fund now, the Smithsonian hopes to assure that AIIS will be financially secure on a long-term basis, and to encourage other such centers to make the effort necessary to develop funding from other sources for the period beyond that of support by the Smithsonian. Toward this end, for FY 1982, the Smithsonian is seeking \$1,000,000 equivalent in Indian rupees to add to the reserve fund. An amount of \$500,000 in Indian rupees was appropriated in FY 1980 to initiate the fund, and a further amount of \$750,000 was appropriated in FY 1981. The reserve is to be maintained intact, until such time as the depletion of the United States Indian rupees account causes its removal from the "excess" currency list.

Long-term support for the AIIS is feasible and highly desirable. As a result of its long relationship with the AIIS, the Smithsonian has confidence that the mutually acceptable and beneficial working relationship can be continued. The AIIS is a very viable organization, standing in high regard with the Indian Government and the scholarly community.

Future requests are anticipated in succeeding fiscal years aimed at bringing the fund to a level capable of supporting basic AIIS activities for five years after the rupee is declared to no longer be "excess." In each fiscal year the funds will be obligated to AIIS but will not be made available for use until the end of the "excess" designation. Until that time the AIIS will continue to compete for Smithsonian grant funds as it does now and, given its past history of success, can be expected to receive continued support. A system of annual scholarly and financial review will be developed for the administration of the reserve fund.

INTERNATIONAL EFFORT TO SALVAGE MOENJODARO

In 1921, two important discoveries were made in the Indus Valley of India, now Pakistan, when archeologists discovered the remains of the cities of Harappa, near Lahore, and Moenjodaro, about 250 miles north of Karachi. These two cities apparently are the products of the Harappan civilization which flourished over 4,500 years ago, from about 3000 B.C. to 1500 B.C. Moenjodaro, a city of a square mile, is the larger and more impressive of the two sites. From the standpoint of planning, sanitation and social organization, this city anticipates developments which only blossomed several thousand years later.

The excavated ruins at Moenjodaro have been threatened since their discovery by two main causes of destruction: floods of the Indus River and highly saline ground waters have caused the serious deterioration of the excavated remains.

Since the 1960s, the Government of Pakistan has appealed to the international community for assistance in salvaging Moenjodaro by diverting the river, lowering the water table, providing remedial action to stabilize threatened buildings and preventing disintegration of those that have not yet been seriously damaged, and installing appropriate landscaping. UNESCO responded to Pakistan's appeal and, in 1974, agreed to lead an international fund raising campaign. In the interim, the Government of Pakistan, with the assistance of UNESCO, has conducted a series of technical studies relating to river control, dewatering and other methods conducive to the eventual preservation of the site.

On October 10, 1979, an agreement between UNESCO and the Government of Pakistan for the preservation and development of the monumental site of Moenjodaro was signed. Following this, an Executive Committee of the Campaign was set up to advise the Director-General of UNESCO on all aspects of the project. The Committee has held several meetings during which various aspects of the plans were reviewed. Bid documents are being prepared for water pumps and river control. Subsequent stages will include consolidation and treatment of remaining structures and planting the area with salt resistant plants to consolidate the soil and to provide suitable protection from wind driven sands. To date, UNESCO has raised approximately \$1.3 million, mainly from governmental contributions of member states. The funds raised thus far have been deposited in an international trust fund for Moenjodaro. Considering that the total budget for the project is now estimated at more than \$13 million, the Committee is seeking new or additional contributions. The Smithsonian is optimistic that this project, long in the planning stage, will get underway shortly and accordingly the Institution plans to seek a total of \$4,000,000 equivalent in nonconvertible Pakistani currency over a four year period beginning in FY 1982 as the United States contribution toward this important project. An amount of \$1,000,000 equivalent is requested in FY 1982.

The Smithsonian is making this request because of its traditional interest in archeology and cultural history. It was the agent for conveying the final United States contribution to the International Campaign to Save the Nubian Monuments--the successful effort to move the Temples of Philae. The Smithsonian Special Foreign Currency Program has supported the significant archeological investigations of Moenjodaro and other Harappan sites which have added greatly to the knowledge of this civilization.

As with the Nubian monuments of Egypt, preserving the remains of Moenjodaro will be of great benefit to generations of future scholars. The network of scholarly relations between American institutions and their counterparts in Pakistan will be developed and strengthened. Indeed, the maintenance of cultural ties between nations can provide a link which endures through the shifting of other relations and insures continued contact between nations. Finally, support by the United States for the preservation of this unique historic site is in the spirit of the UNESCO convention concerning the protection of the world culture and natural heritage (the World Heritage Convention) which was ratified by the United States in 1973.

OBLIGATIONS OF FUNDS BY COUNTRY
(dollar equivalents)

	<u>FY 1980</u> <u>Actual</u>	<u>FY 1981</u> <u>Estimate</u>	<u>FY 1982</u> <u>Estimate</u>
Burma	\$ 28,000	\$ 25,000	\$ 75,000
Egypt	1,170,000	725,000	-0-
Guinea	-0-	-0-	5,000
India	3,275,000 /1 /2 /3	2,652,000 /1 /2 /3	4,070,000 /1 /2 /3
Pakistan	219,000 /2	310,000 /2	1,450,000 /2 /4
Total	\$4,692,000	\$3,712,000	\$5,600,000

/1 Includes transfers to the State Department for "Foreign Affairs Administrative Support."

/2 Includes transfers to the NSF Science Information Program for translations.

/3 Includes obligation for AIIS forward-funded reserve: FY 1980, \$500,000; FY 1981, \$750,000; FY 1982, \$1,000,000.

/4 Includes obligation for U.S. contribution for Moenjodaro: FY 1982, \$1,000,000.

STATUS OF SMITHSONIAN SFCP FUNDS
(dollar equivalents)

	<u>FY 1980</u> <u>Actual</u>	<u>FY 1981</u> <u>Estimate</u>	<u>FY 1982</u> <u>Estimate</u>
Unobligated Balance, Start of Year	\$ 332,000	\$ 22,000	\$ 60,000
Appropriation	4,200,000	3,650,000	5,500,000
Recovery of Prior Years' Obligations	182,000	100,000	100,000
Unobligated Balance, End of Year	-22,000	-60,000	-60,000
Total Obligations	\$4,692,000	\$3,712,000	\$5,600,000

TAB C

FACILITIES PLANNING, RENOVATION,
RESTORATION, AND CONSTRUCTION

FACILITIES, PLANNING, RENOVATION, RESTORATION, AND CONSTRUCTION

	<u>Summary</u>		
<u>Account</u>	<u>FY 1980 Appropriation</u>	<u>FY 1981 Appropriation</u>	<u>FY 1982 Estimate</u>
Construction and Improvements, National Zoological Park	\$ 6,250,000	\$ 3,290,000	\$ 7,150,000
Restoration and Renovation of Buildings	5,250,000	7,539,000	8,500,000
Construction: Museum Support Center	20,600,000	5,000,000	--
Quadrangle Development	--	--	24,135,000
Totals	\$ 32,100,000	\$ 15,829,000	\$ 39,785,000

The FY 1982 appropriation request for construction and improvements at the National Zoological Park will be used to continue progress on the approved Master Plan for the improvement of the animal and public facilities and to perform essential renovation, repair and improvement projects at the Rock Creek Park Zoo and at the Conservation and Research Center in Front Royal, Virginia. The Master Plan development scheduled for FY 1982 consists of beginning the construction of the Aquatic Habitat Exhibits which will display the diversity of both fresh and salt water life in three different temperature zones. Funds also are sought to continue building the research accommodations and backup holding space portion of the delicate animal facility, to resurface roads, and to extend the program of barn and building renovations. Resources are included for necessary restoration and renovation work both at Rock Creek and Front Royal.

The Restoration and Renovation of Buildings appropriation request consists of repairs to facades, roofs and terraces of various historic and monumental buildings; the upgrading, including planning and installation, of fire detection and suppression systems; the provision of improved access for the disabled, and the correction of conditions that could be hazardous to the safety and security of the visiting public, staff and collections; repairs and improvements to utility systems in several museum collection storage buildings, including heating, ventilation and air conditioning systems and plumbing and electrical systems; improvements in support of programmatic objectives, mainly at the Smithsonian's outlying facilities; and general repairs and improvements that are required for a variety of purposes.

Finally, appropriated funds sought in FY 1982 combined with the Institution's nonappropriated Trust funds and other sources are designated for the construction of new facilities in the Quadrangle. The Quadrangle consists of an area of approximately 4.2 acres and is located between the Smithsonian Institution Building and Independence Avenue. The facilities will house a new center for the exhibition and study of Eastern art, the Museum of African Art, and will provide additional public space.

Justification for these programs and projects appears in the following section.

CONSTRUCTION AND IMPROVEMENTS
NATIONAL ZOOLOGICAL PARK

1980 Appropriation.....	\$6,250,000
1981 Appropriation.....	\$3,290,000
1982 Estimate.....	\$7,150,000

This appropriation is for use at the National Zoological Park to fund repairs, alterations and improvements to existing facilities including exhibits; to prepare plans and specifications for construction; and to perform renovations, restorations and new construction for implementing the Master Plan approved by the Commission of Fine Arts and the National Capital Planning Commission in FY 1973. Construction and improvement work is accomplished primarily by contract except in instances when suitable contractors cannot be located or their estimates are above accepted costs in relation to the proposed job. In such cases, accomplishment of the work by other means, such as the purchase of supplies, materials and equipment and/or the use of current staff or temporary labor, is the most economical alternative. Furthermore, occasionally it is necessary to fund other expenses from this account, particularly those associated with the displacement of animals as a result of the construction program or major grounds maintenance in repair of storm damage.

The requested FY 1982 appropriation will be used as follows:

Aquatic Habitat Exhibits (phase one)	\$6,000,000
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Renovations, Repairs and Improvements:

National Zoological Park - Rock Creek	500,000
Conservation and Research Center - Front Royal	<u>650,000</u>

Total	\$7,150,000
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Status of Construction Program: The Master Plan - The National Zoological Park (NZP) was established in 1890 under the Board of Regents of the Smithsonian Institution, which was authorized to "administer and improve" the Zoo for "the advancement of science and instruction and recreation of the public" (20 U.S.C. 81). The Zoo administers two permanent facilities. Exhibition and educational functions have been centered since 1890 on some 160 acres in Rock Creek Valley in Washington, D.C. Complementary animal conservation and breeding functions have been conducted since 1975 on a 3,000-acre site near Front Royal, Virginia.

The National Zoo's Rock Creek facilities have been undergoing major renovation and improvement since FY 1974 through implementation of the Master Plan. With the transfer of selected and critical animal breeding functions to Front Royal, the elimination of costly projects and the scaling down of others, the total Rock Creek Master Plan program has been reduced from an original plan of 41 major projects, with a cost estimated at \$118,000,000, to 30 projects and a current estimate of \$61,700,000. The National Zoo is more than halfway through its construction program, a plan which will make the Park among the world's finest zoos. The funds appropriated to date have been spent on 25 new exhibits and support facilities either completed or under construction. In FY 1981, funds were appropriated to construct a Monkey Island Exhibit, the final major project within the Central Area Complex. This Exhibit, which will have both indoor and outdoor space for the animals and will closely approximate the animals' natural habitat, is expected to be completed in the spring of 1982.

An amount of approximately \$25,000,000 will be required to complete the four remaining projects within the Master Plan. Accomplishments and planned projects are shown on the table on page C-5.

Aquatic Habitat Exhibits (\$6,000,000) - With funding of \$500,000 appropriated in FY 1980, plans and specifications for the Aquatic Habitat Exhibits are being completed. The total cost of the project which is planned to be funded over a two year period is estimated to be \$9,300,000. An amount of \$6,000,000 is being requested in FY 1982, and the balance is anticipated to be sought in FY 1983.

The Aquatic Habitat Exhibits will emphasize the diversity of both fresh and salt water life in the warm, temperate and cold temperature zones and, as with other Zoo exhibits, will be designed to approximate closely the animals' natural environment. It will be located in an area between the Bird House and the newly opened Beaver Valley Exhibits. The aquatic displays will be highly educational and innovative, and will not conform to the traditional aquarium mode. Initial plans call for an educational/orientation room highlighting the role of water and three exhibit areas revolving around the different temperature variations. Each exhibit area will have three viewing areas that will show life under water, life on the water's surface, and life above water.

The educational/orientation area will consist of a "living graphics" display that will demonstrate how aquatic life has developed and provide background information on the exhibits. The first exhibit area will create a tropical river bank environment, including a tropical rain forest jungle. Birds, mammals, reptiles, and plants that live in this region will be featured. Corollary tropical salt water exhibits to include a coral reef and a shark tank will be shown here also. The second major exhibit area will emphasize life in the colder regions of the world. In this exhibit there will be penguins, a rocky shore area with sea cliff birds such as Puffins/murres and a mountain stream setting. The third exhibit area will show life in a temperate climate. The setting will be a Pacific northwest coast showing a rocky seashore environment with sea otters and birds, and a lake shore with a forest setting in the background.

The mechanical support systems will be centralized in order to reduce duplication and to promote energy conservation. They will provide water temperatures that range from a low of 44 degrees to a high of 85 degrees. Ground exhibit temperatures will range from 45 degrees to a high of 85 degrees. The system also will provide both fresh and salt water in a total volume of over 346,000 gallons with a circulation rate of nearly 5,000 gallons per minute. Major emphasis is being placed on energy conservation methods with the goal of providing a precedent setting exhibit at a reasonable support cost.

Renovation, Repairs and Improvements: Rock Creek (\$500,000) - An amount of \$500,000 is requested to continue a program of renovation, repair and preventive maintenance of existing facilities at Rock Creek. There are over 60 facilities of varying ages and 160 acres of land containing over 18 miles of heavily used paths and roadways at the Zoo's Rock Creek location. The funds would be used to complete necessary tasks in mechanical, electrical, plumbing and support systems; grounds, path and roadway repairs; animal support and housing repairs; and temporary relocation of animals. This funding request is essential to support the repairs and renovations necessary to maintain the facilities and grounds in safe and functioning order for the health and safety of the animals and of the visiting public. Particular projects to be accomplished in FY 1982 will be the overhaul or replacement of boilers at the Hospital and Research

Building, the Panda House, and the Bird House, and replacement of roofs and gutters on a number of animal enclosures. Other projects normally funded from this account include landscaping to prevent soil erosion, major painting of public areas and animal enclosures, repairs to deteriorated roads and walkways, electrical repairs and other major emergency repairs.

Renovation, Repairs and Improvements: Front Royal (\$650,000) - An amount of \$650,000 is requested to be used at the National Zoological Park's Conservation and Research Center in Front Royal, Virginia. These funds will be used to accomplish work necessary for continuing its critical animal breeding programs and to permit the Center to accelerate its development program so that it can complement the development at Rock Creek Park. With funds appropriated in prior years, the Zoo has undertaken a comprehensive development plan study for the Conservation and Research Center. This plan currently is being evaluated, and when completed, will be presented to the Congress for its consideration. The funds being requested in FY 1982 are designated for continuation of the Delicate Animal Facility (\$350,000); for road resurfacing and curb improvements (\$100,000); and for miscellaneous renovations and repairs (\$200,000).

Delicate Animal Facility (\$350,000) - An amount of \$350,000 is requested to continue construction of a complex that will provide necessary research/health accommodations and a backup holding space for the Rock Creek collection. It also will allow the Zoo to expand its program of breeding animals that do not adapt well to urban conditions. The design of this facility has been completed with funds appropriated in FY 1980. It will be located in the central area of the Front Royal complex. Small mammals and birds, such as giant armadillos, flying lemurs, Palawan peacock pheasant and Bali mynah, a number of which are on the endangered or threatened species list, will be transferred here. The facility will feature spacious indoor enclosures, as well as large outdoor yards. The heating system will be supplemented by a solar assisted system. The part of the complex to be used for small mammal breeding will be constructed with funds appropriated in FY 1981. Funds being sought in FY 1982 and anticipated to be sought in FY 1983 will be used to complete the complex.

Road Resurfacing and Curb Improvements (\$100,000) - An amount of \$100,000 will permit curb improvements and the resurfacing of the existing one- and one-half miles of asphalt roads in the central area that need either a sealcoating or overlay of asphalt and crushed rocks to restore their weathertight surface, and to prevent deterioration from surface cracks. The project also will provide a year-round asphalt and crushed rock surface treatment to the one-quarter mile of unimproved roads leading from the central area to the Hardy Bird Yards and to the hoofstock barn. This resurfacing project will eliminate the need for extensive road rebuilding in the future.

Miscellaneous Renovations and Repairs (\$200,000) - An amount of \$200,000 is sought to extend the program of barn and building renovations. At this time, it is anticipated that a number of animal facilities (Meade and Waller barns which house Bactrian camels, Pere David's deer and zebras), the Administrative Building and a number of smaller research facilities will be included in this renovation program. Many of these structures suffered years of neglect by the former users. The buildings also must be adapted for use by the Center's hoofstock collection. Funds will be used to upgrade the structures by improving their electrical, plumbing and heating components.

(Dollars in thousands)

NATIONAL ZOOLOGICAL PARK
Construction Program
1974-1986

Estimates include cost
escalation to March 1982.

<u>Activity</u>	<u>1974-80</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>Repro- grammings</u>	<u>TOTAL</u>
<u>I. Master Plan</u>									
Lion-Tiger Facility	3,000 /1								3,000
Elephant/Bird House	3,130							+26	3,156
Education-Administration Building	2,500							-157	2,343
General Services Facility	7,000							+834	7,834
Parking Facility						680	6,500 /2		7,180
Lower Rock Creek Valley	3,000							-1	2,999
Beaver Valley Area	6,410							-431	5,979
Central Area	8,550	1,840						-264	10,126
Waterfowl Pond and Small Cats	520							-15	505
Aquatic Habitats	500		6,000	3,300					9,800
Health & Research Hill (incl. Holt House Renovations)				1,200	2,000				3,200
Master Graphics	200			150				+1	351
Entranceway & Olmsted Walk Exhibits				200	2,000	1,000			3,200
Subtotals	34,810	1,840	6,000	4,850	4,000	1,680	6,500	-7	59,673 /3
<u>II. Renovations, Repairs & Improvements</u>									
Rock Creek	3,230	450	500	600	600	600	650 /4	+7	6,637
Conservation & Research Center	4,230 /5	1,000	650	1,600	1,750	2,070	1,000 /4		12,300
GRAND TOTALS	42,270	3,290	7,150	7,050	6,350	4,350	8,150	-	78,610

/1 Excludes \$275,000 for planning appropriated in FY 1973.

/2 Citizen participation through parking revenues will contribute an additional \$2,000,000 or more to the estimated construction cost of \$8.5 million by FY 1986.

/3 The current total estimated cost for the Master Plan is \$61.7 million. This includes the construction of the parking facility (See footnote 2.)

/4 In subsequent years, major repairs and maintenance are expected to require \$650,000 at Rock Creek and \$450,000 at the Conservation and Research Center annually.

/5 Excludes \$125,000 appropriated in FY 1975 under Restoration and Renovation of Buildings Account.

RESTORATION AND RENOVATION OF BUILDINGS

1980 Appropriation.....	\$5,250,000
1981 Appropriation.....	\$7,539,000
1982 Estimate.....	\$8,500,000

The Smithsonian's facilities consist of 12 museum and gallery buildings in Washington, D.C. and New York City housing research and collections management activities and a wide range of exhibitions in the fields of science, history, technology and art. In addition, the Institution operates and maintains the preservation, storage, and aircraft and spacecraft display facility at Suitland, Maryland; centers for biological research, conservation and education in Panama and on the Chesapeake Bay near Annapolis, Maryland; a center for astrophysics in Cambridge, Massachusetts; and an observatory on Mt. Hopkins in Arizona. These facilities range in age from new to well over 100 years old. The Restoration and Renovation of Buildings (R&R) account is used to fund repairs, alterations and improvements of a long-term nature and benefit to these facilities which have a replacement value of several hundred million dollars. (The repairs and renovations at the National Zoological Park are presented separately in this budget submission.) Work is conducted primarily by contract, except when suitable contractors cannot be located or when accomplishment of the work by some other means is the most effective and economical solution (such as the purchase with funds made available from this appropriation of supplies, materials and equipment, and the use of staff or temporary labor). Facilities planning, design and other studies also may be funded from this account, as may the construction of major and minor additions and new temporary or minor permanent buildings.

Projects undertaken with resources in this account support the research, care and preservation of collections; the safety, security and health of the public and staff; the elimination of architectural barriers to assure accessibility for disabled persons; energy conservation efforts; and the maintenance and development of a valuable physical plant and surrounding areas.

Substantial work is required to keep Smithsonian facilities in good repair. This is essential for several reasons, perhaps one of the most significant being the fact that the majority of the Institution's museums are included on the National Register of Historic Places, which imposes a special responsibility under the provisions of the National Historic Preservation Act to ensure that they are preserved in a manner that is harmonious with their architectural characteristics. Moreover, museums should be places where visitors derive pleasure from viewing the collections and learning about what they symbolize or what they can tell us about our own history. Museums can be vital and dynamic institutions which communicate knowledge in a lively and enjoyable manner. In order to promote this sense of excitement, the physical condition of the museums must be good. No matter how well presented the exhibit, if its environment is unpleasant or unhealthy, its effectiveness will be decreased substantially or lost.

The proper care and protection of the National Collections are, of course, crucial reasons to maintain properly the Institution's facilities. The Smithsonian's legal responsibility to serve as the official repository of the National Collections (20 U.S.C. 41, et seq.) does not mean the Institution merely accepts and stores art objects, natural specimens and artifacts. They must be conserved properly. This means their environment must be safe. The collections can be damaged irreparably by inadequate environmental control.

The environment must be stabilized so that the millions of objects in the collections do not become damaged. Stable temperature and humidity conditions must be maintained in order to protect museum artifacts. If the relative humidity changes, organic substances, such as wood, paper and fabrics, change dimensions. For example, the fibers in woven textiles will begin to rub against each other as they expand or contract and eventually wear themselves down, destroying the material. This is true of material in good or poor condition, although the older the object the more likely is the deterioration. The Star Spangled Banner, for instance, came to the Smithsonian in very bad condition--literally worn to threads--and now must be kept in a specially controlled environment. In general, if the humidity increases to very high levels, mold can begin to grow and eat away the material or deposit colored matter in it. If the humidity drops to too low a level, the material can become brittle and break. Light levels also affect organic substances; too much can cause serious deterioration. In paintings, for example, excessively intense or prolonged exposure to light can lead to faded colors, discolored varnishes, weakened and broken fibers and embrittled paper. Inorganic materials also are subject to deterioration. Metal, for example, will corrode if it is exposed to too much dust which contains acidic salt, or to sulfur dioxide which can be found in polluted air. As a result of these detrimental conditions, stringent requirements are imposed on collections management procedures. The heating, ventilating and air conditioning systems, therefore, must work as well and as efficiently as possible. In the older buildings, which were not designed with the sophisticated equipment necessary to meet these needs, the systems need to be replaced completely; in other buildings they need to be repaired and improved. Furthermore, electrical, mechanical and plumbing systems must be maintained and repaired as must facades and roofs. When these are in a state of disrepair, they pose hazardous environments for both the visitors and staff, as well as for the collections.

Visitor and staff safety and security also demand that the facilities are in proper repair. The Occupational Safety and Health Act of 1970 (29 U.S.C. 651 et seq.) requires that all employers meet certain safety and health standards for the protection of their employees. Fire detection and suppression equipment must be upgraded and modernized in order to provide the level of protection consistent with today's technology. Sprinklers, smoke detectors and fire doors are needed and exits must be improved in older buildings to meet the requirements of a greater number of visitors. The importance of dependable and comprehensive fire protection coverage cannot be overemphasized. Health, safety and security considerations also present the need for altering buildings. Asbestos insulation must be contained or removed and, if necessary, replaced with substitute insulation materials, and better lighting is needed outside other buildings for improved security.

Greater awareness and attention to the needs of disabled persons, as reflected in the enactment of recent legislation, have resulted in the establishment of additional requirements for all of the Institution's facilities in order to make them more accessible to all visitors and staff. These requirements are met in new exhibits and construction projects; however, most facilities still require modifications to meet the established standards. The Hirshhorn Sculpture Garden, for example, is being renovated to provide easier access for the disabled into and within the Garden.

Finally, new program objectives or research needs at the Smithsonian's outlying facilities present additional requirements for repair and renovation work. These must be met to provide the efficient operation and appropriate support of the programs at the various research bureaus. By maintaining and developing the facilities, the Smithsonian can continue to provide leadership in several major fields of study.

The Institution's Five Year Prospectus identifies specific categories of work which are estimated to cost approximately \$52.8 million between FY 1982 and FY 1986. The FY 1982 request of \$8,500,000 represents an increase of \$961,000 over the FY 1981 R&R appropriation and emphasizes the Institution's continuing commitment to establish an adequate level of annual funding for this account in consideration of the size, diversity, age, historical character, and condition of the Institution's facilities.

The justification for this year's budget request follows:

1. General repairs and improvements	\$ 755,000
2. Facade, roof and terrace repairs	2,945,000
3. Fire detection and suppression systems	720,000
4. Access for the disabled, safety and security and correction of hazardous conditions	1,180,000
5. Utility systems repairs and improvements	2,350,000
6. Other projects	<u>550,000</u>
Total	\$8,500,000

GENERAL REPAIRS AND IMPROVEMENTS (\$755,000): Funds requested in this category support a wide variety of projects that do not lend themselves to discrete categorizations as well as minor emergency repairs that cannot be anticipated, such as structural defects resulting from heavy use, extreme weather conditions or other circumstances. Examples of projects in this category include interior repairs to floors, ceilings and partitions; modifications to create additional or more effective space for program activities; office modifications, including refinishing to support program changes; renovations of exhibition and other public space; repairs to roads and walkways; and lighting improvements. For FY 1982, an amount of \$755,000 is requested to fund emergency repairs and to accomplish the following specific projects: repairs to the plaster, paint and stenciling in the Arts and Industries Building; installation of doors, a partition, electrical circuits and minor plumbing modifications in order to accommodate new color processing equipment in the photographic laboratory in the American History Building; renovation of the storage room of the Division of Costumes in the American History Building in order to correct the problem of condensation; demolition of several halls in the Natural History Building as part of the exhibits modernization program; pier repairs on Naos Island at the Smithsonian Tropical Research Institute (STRI); and space utilization studies in the Arts and Industries and Smithsonian Institution Buildings. Additional projects in this category required in FY 1982 include walkway repairs at several Mall museums; space development for a marine biology laboratory in the Natural History Building; essential maintenance and repairs at the Museum of African Art and at several STRI facilities; repairs to the perimeter security fence at the Suitland facility; continued lighting improvements in the exhibit halls of the Freer Gallery of Art; roadway and parking improvements at the Chesapeake Bay Center for Environmental Studies; a study to determine the cause of cracks in the basement floor of the American History Building; repairs to the decorative floor tiles in the National Portrait Gallery; and the design of an energy efficient means of renovating the malfunctioning fountain at the north entrance of the American History Building.

FACADE, ROOF AND TERRACE REPAIRS (\$2,945,000): Maintaining the integrity of the exteriors of all Smithsonian buildings is critical to preventing major structural damage and deterioration due to age and weathering and to ensuring a safe environment for visitors, staff and collections. Energy conservation also demands watertight and weathertight exteriors. Work in this category includes a variety of major projects that must be accomplished periodically according to the life cycles of the materials used. For example, roof replacements are needed about every 20 years; facade joints must be recaulked and repointed about every 10 years; and window frames and other exterior trim should be painted about every five years. Several Smithsonian buildings require large-scale renovations, and work is underway to assure that these major deficiencies are corrected so that in the future, a routine maintenance and repair program will be adequate for the protection of the exteriors of these buildings.

Examples of projects in this category that either were accomplished recently or are nearing completion include repointing of the masonry facade and repair of the window frames at the Cooper-Hewitt Museum; repairs to the west wing roof of the Natural History Building; recaulking of the Hirshhorn Museum facade; and repairs to the north porte cochere of the Smithsonian Institution Building. Construction is progressing on the terrace repairs at the American History Building and on repointing the facade of the American Art/Portrait Gallery Building. Planning and design are underway for the facade and terrace repairs required at the Air and Space Building and for the final phase of the roof replacement at the American Art/Portrait Gallery Building; it is expected that this roof replacement project will be completed with funds appropriated in FY 1981.

For FY 1982, an amount of \$2,945,000 is requested to continue work on major projects and to initiate new repairs.

Planning and design still are in progress for the renovation of the facade of the 120 year old Renwick Gallery Building. The Institution has proceeded carefully on this renovation project in order to assure that the eventual repairs will provide a permanent solution to the problem while maintaining sensitivity to the building's status as a National Historic Landmark.

Portions of the Renwick Gallery Building's facade, as originally designed and constructed, have been damaged extensively due to excessive deterioration from age and weathering. An attempt to repair the facade was undertaken in FY 1968 under the management of the General Services Administration (GSA). At that time, damaged sections of the stonework were repaired or replaced with molded synthetic replicas, and all sandstone surfaces were then painted with a sealant film. By 1975, these restored sections began to fail, and large pieces of stone fell from the building. Funds appropriated in this account in FY 1978 and FY 1979 (\$300,000) were used to construct a covered walkway adjacent to the building to protect pedestrians from the danger of falling stones; to remove the synthetic materials that had been applied in FY 1968; to make temporary repairs to stabilize the building; and to contract for architectural engineering services necessary to investigate the problem and develop plans for corrective action.

The results of these investigations revealed that the materials used under the construction contract awarded by GSA failed to adhere to the building's original sandstone because of the significant differences in their chemical properties. Moreover, moisture had become trapped in the stone because of the non-breatheable sealant film that had been applied, and this had resulted in an even greater acceleration of the sandstone decay during subsequent freeze/thaw cycles.

Further analyses indicated that at least 88 percent of the original sandstone (all of which is located on the south and west facades) needed to be replaced because of its advanced state of decay. Three replacement materials were considered acceptable alternatives in terms of quality and durability: (1) Indiana limestone; (2) West German natural sandstone (the preferred natural stone); and (3) precast architectural concrete, produced in a manner that would maintain the Gallery's appearance in both color and texture. The Institution selected precast concrete as it was judged to be the most economical alternative.

During FY 1980, detailed measured drawings of the actual dimensions of the stone were completed for all stonework to be replaced. Full-scale precast concrete samples were produced and subjected to advanced weathering tests. In October 1980, these concrete samples were presented to the Commission of Fine Arts for inspection. The Commission agreed that the samples appeared to be good reproductions of the original decoratively carved sandstone, but requested that the Institution obtain updated construction cost estimates for both the precast concrete and the natural stone. Estimates are now being updated to reflect actual experience in the production and quality control of the precast architectural concrete stone replicas and to take into account current costs and time schedules associated with quarrying, transporting and carving natural stone.

With a portion of the \$600,000 appropriated for this project in FY 1980, the Institution awarded a technical services contract for the remaining engineering services required before construction could begin. Under this contract, the drawings of the actual dimensions of the stone will be used to provide engineering details for the removal of the original sandstone and for the support and anchorage required to attach either new natural stone or precast concrete to the building. Additionally, the structural design will be modified to correct the original design deficiency that contributed to the accelerated decay of the sandstone.

To date, an amount of \$1.9 million has been appropriated for this project. Of this amount, funds of \$1.4 million are available for construction which is expected to begin in late FY 1981. For FY 1982, an amount of \$1 million is requested to continue renovation of the Renwick Gallery Building facade. Additional funds of approximately \$2.8 million are expected to be sought through FY 1986.

An amount of \$1 million is requested for FY 1982 to continue the multi-year renovation of the roof and exterior of the historic Arts and Industries Building in order to assure watertightness, energy efficiency and the protection of work already accomplished. An amount of approximately \$1.25 million was appropriated in FY 1977 and FY 1978 for the first phase of exterior renovation work. These funds were applied toward replacing the roof of the courts, four halls and rotunda; replacing some gutters and downspouts; selected repointing in the most deteriorated areas; and other related repairs. With funds of \$225,000 appropriated in FY 1980, the Institution contracted for professional architectural engineering services to provide the necessary analysis, documentation, cost estimation and detailed drawings and specifications for the remaining work. This major design effort is still in progress. Funds appropriated in FY 1981 (\$1 million) will be used to continue construction related to the roof replacement, including the removal and replacement of existing roofing, flashing and underlayments; removal of abandoned or nonoriginal elements, such as skylights, roof vents, exhaust hoods and mechanical equipment; and the repair, relocation or replacement of the roof drainage and guttering systems. Other major requirements include extensive repairs and improvements to window components (frames, sashes, glazing, painting, weather stripping, and hardware) and the incorporation of an electronic security system; the provision of fire exit

windows; reconstruction, cleaning and repointing of exterior masonry; the removal of nonoriginal equipment located on the facade of the building, such as window air conditioning units, exhaust fans and steam pipes; and the restoration of some of the building's original elements, such as lighting standards at the entrances, cast iron gates, and ornamental sheetmetal. The updated cost estimate for the balance of work is \$9.2 million in 1981 dollars. Funds of \$1 million were appropriated in FY 1981; an additional \$1 million is sought for FY 1982; and the balance of \$7.2 million is expected to be sought in future years.

In preparation for the National Museum of American History's (then the National Museum of History and Technology) 1976 Bicentennial exhibition, "A Nation of Nations," an exterior ramp, canopy and separate entrance were constructed on the west side of the building. Due to energy conservation considerations, security requirements and the Museum's exhibition plans, this entrance is to be closed permanently. An amount of \$250,000 is requested for FY 1982 to remove the ramp and canopy, to replace the waterproof membrane beneath this area of the terrace and to reinstall the concrete slabs. This work is required as a precaution against water leakage, a problem that other areas of the terrace have encountered and for which repairs are expected to be completed with funds appropriated in FY 1981.

Funds of \$105,000 were appropriated in FY 1981 to begin recaulking the facade of the American History Building. Before construction can begin, the facade must be tested to determine the source of moisture intrusion. Several stones will be removed from the parapet and facade to allow for an examination of the actual construction of the building shell and of the condition of the existing waterproofing beneath. An amount of \$150,000 is requested for FY 1982 to continue the recaulking project. Depending upon the condition of the building, additional funds may be required in subsequent years to complete the work.

At the American Art/Portrait Gallery Building, the mortar joints on the courtyard facade are being raked, cleaned and repointed with funds of \$50,000 appropriated in FY 1980. For FY 1982, an additional amount of \$200,000 is requested to repoint the stonework on the perimeter facade of the building to prevent water intrusion.

For the Hirshhorn Museum, an amount of \$80,000 is requested to clean and seal the precast panels of the building's facade. During FY 1980, the original caulking, which had begun to deteriorate, was removed and all joints were recaulked with a better grade of material. Additional "weepholes" also were installed to allow moisture to escape; this change corrected an original design deficiency. Testing and actual experience during the recaulking process revealed that although water had become trapped behind the panels, no structural damage resulted. In order to eliminate the exterior staining (which prompted the initial investigation of the facade), the building must be cleaned and all precast panels must be sealed with a breatheable coating material that will resist the absorption of water.

An amount of \$75,000 is requested to begin repointing and recaulking the facade of the Natural History Building. Currently, it is estimated that an additional amount of \$75,000 will be requested in FY 1983 to complete the project.

Additional funds of \$190,000 are required for several projects. These funds will be used to replace the leaking roof of the Anacostia Museum's exhibit center building; to replace defective windows at the Hirshhorn Museum; to plan for resurfacing the Hirshhorn Museum's plaza with a more durable material (a project which is expected to cost approximately \$1.75 million over the next five

years); to plan for repairing and reglazing the windows of the Natural History Building (a project which is expected to cost approximately \$800,000 over the next five years); to perform exterior maintenance on several buildings at the Suitland Facility; and to analyze the deterioration of the columns and stone facade of the American Art/Portrait Gallery Building in order to obtain a recommendation for the repair and stabilization of the building's granite, marble and sandstone.

FIRE DETECTION AND SUPPRESSION SYSTEMS (\$720,000): The Institution is continuing to develop and carry out plans for upgrading fire protection systems in all buildings in order to provide a level of safety consistent with today's standards and technology. Work in this category includes the installation of heat and smoke detection systems; sprinkler and chemical suppression systems; fire doors and walls; and the improvement of exit capability, particularly in older buildings. Improved systems are installed as exhibitions are changed and fire retardant materials are used wherever possible.

The Natural History and American History Buildings represent the largest areas with the least protection, and efforts are being made to correct major deficiencies in these buildings by FY 1986. A fire protection master plan for the Natural History Building was completed in FY 1979, and steady progress has been made since then in carrying out the plan.

With funds of \$675,000 appropriated in FY 1979 and in FY 1980, construction is underway or nearing completion on the sprinkler and smoke detection systems for the Natural History Building's west wing; on the fire control panel; and on the installation of water supply risers, alarm conduit and wiring required for the east wing. The next priorities to be carried out with funds of \$400,000 appropriated in FY 1981 include completion of the east wing sprinkler and smoke detection systems; the installation of an emergency generator to serve the fire pumps and elevators; and the installation of new fire doors and electronically controlled locks to improve emergency exit capability. An amount of \$300,000 is requested for FY 1982 to continue this work. It is expected that an amount of approximately \$2.8 million will be required in future years to complete this project.

The fire protection master plan for the American History Building was completed during FY 1980. This plan outlines phased improvements similar to those underway or planned for the Natural History Building, including upgrading or adding sprinkler and detection systems; providing for emergency power; installing a new fire alarm system; and undertaking architectural modifications to improve the efficiency of fire zones and exit capability. Funds appropriated in FY 1980 (\$50,000) and in FY 1981 (\$265,000) will be used to begin the installation of water supply piping and control valves for the American History Building's upgraded sprinkler system. An amount of \$250,000 is requested for FY 1982 to continue work included in the master plan. It is anticipated that an amount of approximately \$3.3 million will be required in future years to complete this project.

At the Chesapeake Bay Center for Environmental Studies, construction of a new water supply and distribution system is in progress. (Funds of \$250,000 were appropriated for this purpose in FY 1981 in the "Other Projects" category.) Construction, which is scheduled for completion in FY 1981, involves the installation of a new well, a 100,000 gallon water storage tank and an underground water distribution network. The new system will provide a fire fighting capability at the Center, will increase domestic water pressure to required levels, and will be able to support a fire suppression sprinkler system. For FY 1982, an amount of \$70,000 is requested to install sprinklers in the Center's administration building, visitors center, laboratory building and new maintenance building.

An amount of \$75,000 is requested to install sprinklers and smoke detectors in unprotected areas of the Arts and Industries Building. It is anticipated that an additional amount of approximately \$300,000 will be required to meet the fire protection requirements of this building, and funds for this purpose will be requested in future years.

An additional amount of \$25,000 is requested to study the fire protection requirements on Barro Colorado Island at the Smithsonian Tropical Research Institute and to provide plans for improvements. The scope of work will include a feasibility study on the possibility of installing a water storage tank, a pump and waterlines to provide fire suppression capability on the Island. Funds to carry out the study recommendations will be requested in future years.

ACCESS FOR THE DISABLED, SAFETY AND SECURITY AND CORRECTION OF HAZARDOUS CONDITIONS (\$1,180,000): The legislated requirements to assure the accessibility of facilities to all persons are being met in new exhibits and construction projects. Although many facilities still require modifications to meet current standards, significant progress has been made in eliminating architectural barriers. Examples of recent accomplishments include the completion of a conceptual plan to provide a suitable entrance access to the Freer Gallery of Art; the installation of a passenger elevator in the Arts and Industries Building to permit disabled persons to reach the second floor; the installation of a wheelchair lift in a major exhibit in the American History Building; and rest room modifications in the Smithsonian Institution Building. The construction of a system of ramps in the Hirshhorn Sculpture Garden is nearing completion, and the original unstable surface will be replaced with brick pathways to ease movement for mobility impaired persons. The Garden is scheduled to reopen to the public during the summer of 1981. At the Museum of African Art, ramps are being constructed to permit access to all buildings, and an elevator will be installed in the Frederick Douglass House so that disabled persons may reach exhibits on all levels of this historic building. The conceptual plan for the provision of access for the disabled at the Mall entrance of the Smithsonian Institution Building is complete. During FY 1981, detailed drawings and specifications will be prepared and it is anticipated that construction related to the planned wheelchair lift will begin.

During FY 1980, the north and south entrances of the Natural History Building were modified to improve access and to increase emergency exit capability. Accomplishments at the north entrance include the installation of ramps, curb cuts and automatic doors. Two additional doorways were constructed at the south entrance. For FY 1982, an amount of \$175,000 is requested to complete several related items of work, including the installation of interior double doors at the two new south entrances to create vestibules, which will contribute to energy conservation; the repair or replacement of the original bronze doors; and the correction of mechanical problems related to the heating, ventilating and air conditioning (HVAC) service in the portals.

Also, at the Natural History Building and at the Air and Space Building, an amount of \$105,000 is requested to continue rest room modifications to meet the needs of disabled persons.

The safety and security of collections, visitors and staff also demand facilities modifications. These are expected to be accomplished during the next five to ten years. A major focus of attention will continue to be the containment or removal of asbestos materials located in Smithsonian facilities. Asbestos has been identified in the American Art/Portrait Gallery Building; the American History and Natural History Buildings; the Arts and Industries

Building; and in a number of buildings at the Suitland Facility. Additional areas suspected to contain asbestos, primarily the mechanical equipment rooms in several buildings, will be tested during FY 1981. Three methods of correcting the problem, used singly or in combination, have been identified: (1) complete removal of existing asbestos materials in accordance with guidelines of the Environmental Protection Agency (EPA) and replacement with substitute materials that provide the required thermal insulation, acoustic dampening or fire protection properties; (2) encapsulation with a spray-on fire retardant material that is approved by EPA; and (3) containment with drywall or another suitable material by constructing an airtight inner shell that traps the asbestos between existing construction and the new shell. Funds of \$250,000 appropriated for this purpose in FY 1981 will be applied toward the containment or removal of asbestos in the attics, mechanical equipment rooms and skylight areas of the American Art/Portrait Gallery Building and in the carpentry shop in the Natural History Building. A further amount of \$250,000 is requested to continue the asbestos abatement program in FY 1982. The total cost of this project over a period of 10 years is expected to exceed \$2.5 million.

Continued improvements to buildings used for storage of the National Museum of American History's collections at the Suitland Facility are planned in order to contribute to the Museum's collections management program. For FY 1982, an amount of \$150,000 is requested for safety improvements required in one of these buildings, which is used for the storage of various items of historic value, including early electronic equipment, collections in the areas of dentistry and medicine, and photographic equipment, such as cameras and glass plates. Construction will involve the installation of a vapor barrier, additional insulation, an inner drywall shell, and a fire protection system. These modifications will eliminate hazards presented by existing asbestos and will provide improved thermal stability.

Another major project planned for accomplishment during the next decade is the conversion to an electronic security and fire alarm system that is completely owned and operated by the Smithsonian. A technical services contract currently is in progress for the necessary analysis and planning, and this effort will be completed during FY 1981. The purposes of converting to a proprietary security system are to gain faster response times to security and fire protection alarms; to improve the quality and control of information transmitted from the security devices and fire sensors to the building security offices and the central control room; and to eliminate reliance on leased equipment, outside sources of power and related contractual services, the costs for which are rapidly escalating. Construction will involve modifying eight building security offices in the Washington area to accommodate the installation of new equipment to be purchased by Smithsonian (mini-computers, data panels, etc.); upgrading heating, ventilating and air conditioning service in these offices to provide environmental conditions necessary for the efficient operation of this equipment; rewiring all alarms; and installing underground cables to provide for a communications system. All work during the changeover from non-Smithsonian equipment will be accomplished in a manner that allows for uninterrupted electronic security service. The current estimate for the total phased conversion is approximately \$3.3 million, and an amount of \$300,000 is requested to begin construction in FY 1982.

Conceptual planning is in progress for a new exterior security lighting system for the Institution's buildings on the Mall. Recent incidents of assault on the Mall during the evening emphasize the need for lighting improvements to lessen the risk to visitors and staff leaving the museums after special events, Associates classes and other nighttime programs. Existing lighting is inadequate. Improvements will include the installation of new lamp posts, which will be designed to be compatible with the architectural style of each museum,

and new lighting fixtures, which will be engineered to provide a maximum amount of illumination in critical areas with a minimum amount of energy usage. Some existing lighting will be removed, and new wiring conduit and controls will be installed. The new system will provide for two levels of lighting, as necessary: general illumination after regular working or visiting hours; and a second, higher level of illumination for added security such as when classes or other events conclude late at night. The new system will enable the Institution's security staff to control the lighting individually for each building. For FY 1982, an amount of \$200,000 is requested to begin construction of the new exterior lighting system. The preliminary construction estimate for the total project is \$2 million.

UTILITY SYSTEMS REPAIRS AND IMPROVEMENTS (\$2,350,000): Funds appropriated in this category are used to maintain, repair and upgrade the heating, ventilating and air conditioning systems (HVAC) and plumbing and electrical systems in the Institution's facilities. Proper maintenance and improvements of these systems are essential for increasing energy efficiency and for providing stable temperature and humidity conditions necessary for the preservation of the collections. Scheduled repairs and replacements of deteriorated equipment components require a consistent level of funding, and major renovations and repairs are required in many Smithsonian buildings where utility systems were not designed with the aid of today's energy saving technologies.

The Institution is making a concerted effort to conserve energy (see the Uncontrollable section for a description of these efforts). The most significant energy savings, however, will be realized by the application of substantial resources in this account toward upgrading HVAC systems, replacing obsolete equipment and improving the efficiency of environmental zones. HVAC systems have been modified over the years as the Institution's programs have grown, as the functions of the buildings have changed and as the environmental needs of the collections have become better understood. During much of this time, energy conservation did not represent a primary consideration. An integrated approach now is required in order to plan for long-range, systematic HVAC improvements that will meet requirements in an energy efficient manner.

Comprehensive HVAC studies and energy audits are required for most buildings in order to begin planning for improvements to be accomplished in future years. The scope of the HVAC studies will include field investigations of existing equipment, controls and current operating conditions; reviews of existing drawings, specifications, operating manuals and hydrothermalgraph records; an analysis of the relationship between the building structures and the HVAC systems; and an assessment of programmatic needs for environmental control. The data gathered by these studies will provide a basis for redesigning existing HVAC systems; for developing construction cost estimates; and for establishing priorities for the repair, replacement or modification of such equipment as air handling units, chillers, condensers, compressors, cooling towers, automatic temperature and humidity controls, pumps, pipes, fans, filters, ductwork, and related electrical and plumbing systems. At the same time, energy audits will be performed to investigate all factors relating to energy use, such as power consuming equipment and building conditions (doors, windows, insulation, floors and partitions, etc.). Current energy consumption and costs will be evaluated; energy conservation opportunities will be identified; projected savings will be calculated; and plans will be developed to carry out the recommended energy conservation measures.

For FY 1982, an amount of \$2.35 million is sought to continue work on HVAC renovation projects begun in FY 1981 and to initiate several new projects.

The first major phase of the renovation of the HVAC system at the Freer Gallery Building will be initiated with funds of \$300,000 appropriated in FY 1981. For FY 1982, an amount of \$380,000 is requested to continue this project, which also includes renovation of the building's steam station and some electrical rewiring. It is estimated that an additional \$410,000 to complete the HVAC renovation will be requested in FY 1983.

Throughout the Natural History Building, there is a poor balance of temperature and humidity conditions, and the ventilation and exhaust systems are sorely inadequate. An HVAC and energy conservation study will be initiated in FY 1981 to begin planning for improvements that will solve these and other problems. Other needed projects that have been identified include the repair of duct insulation in the mechanical equipment rooms; the repair or replacement of the main cooling tower; replacement of obsolete electrical circuits; repair or replacement of plumbing lines; the removal of abandoned equipment; replacement of the obsolete electronic control system; and replacement of air handlers, transformers, refrigeration compressors and pumps. For FY 1982, an amount of \$375,000 is requested to begin design and construction based on the study findings and recommendations. In addition to initiating the study for the Natural History Building in FY 1981, obsolete motor controllers serving the chillers will be replaced with standardized equipment, and a separate HVAC system will be installed to serve the Building's auditorium, so that the system can be operated only when the auditorium is in use. An additional amount of approximately \$1.8 million will be required through FY 1986 to continue work on this project.

For the American History Building, an amount of \$100,000 was appropriated in FY 1981 to begin replacement of the main chilled and condenser water pumps, which are part of the Building's original equipment. These pumps, which serve the chillers and cooling towers, are a key component of the Building's entire HVAC system. However, an engineering analysis has determined that a comprehensive HVAC study is required in order to select suitable, energy efficient replacements, as well as to develop plans and priorities for replacing related components of the system. For this reason, the Institution is planning to redirect funds appropriated for the pump replacements toward the essential HVAC/energy study, for which no funds were programmed in FY 1981. Additional funds of \$230,000 appropriated in this category in FY 1981 for the American History Building will be used to begin replacing deteriorated air handling units and adding related reheat coils, steam humidifiers and new controls. For FY 1982, an amount of \$430,000 is requested for continued improvements, following the recommendations of the study. Requirements anticipated for FY 1982 and beyond include the pump replacement project originally scheduled for FY 1981; continued replacement of air handlers; improvements to environmental controls and zoning; repair or replacement of cooling towers; installation of improved air filtration and humidification systems; replacement of refrigeration compressors; and other projects designed to improve operating efficiency and to simplify maintenance. Additional funds of approximately \$1.8 million will be required through FY 1986 to continue work on this project.

Currently, temperature and humidity conditions in the Arts and Industries Building are difficult to control. The heating and cooling systems are only marginally effective during transition seasons, and the entire system is a high energy user. Funds of \$100,000 appropriated in FY 1981 will be used to contract for engineering services to develop a master plan and to design the upgrading of the Building's HVAC system. Improvements are expected to include the installation of an energy conserving system to provide greater amounts of outside air to interior portions of the Building to help regulate building temperatures; the addition of reheat coils, which are currently lacking, to control temperatures;

the modification of controls on air handling units; and the addition of new steam humidifiers. An amount of \$200,000 is requested for FY 1982 to begin the program of improvements. The total construction cost currently is estimated at approximately \$1.1 million, and additional details and an updated cost estimate will be available upon completion of the design.

Design also is in progress for upgrading the HVAC system in the American Art/Portrait Gallery Building. Contract documents are being prepared for a new system of automatic temperature and humidity controls; the replacement of obsolete chillers and associated pumps, pipes and controls; balancing of the air and water systems, including new dampers and valves; modifications to the return air system; and all related electrical and plumbing work. The scope of the design also includes the repair and recaulking of the Building's existing windows and the addition of storm windows and solar film. An amount of \$225,000 is requested for FY 1982 for the first construction phase. It is anticipated that the total cost of the HVAC renovation will be approximately \$2 million.

An energy audit of the Air and Space Building is underway. This study is focusing on the Building's electrical distribution system, transformer requirements and methods of conserving electricity. The study also will investigate the large glazed areas of the facade and the feasibility of installing solar films to save energy; the feasibility of eliminating the use of conditioned air in the underground garage by redesigning portions of the HVAC system; and the feasibility of redesigning the existing radial electrical distribution system in a network configuration. An amount of \$180,000 is requested to begin to carry out the recommendations of the energy audit. Additional funds of approximately \$890,000 are expected to be sought through FY 1986 to continue work on this project, and to accommodate routine repairs and replacements of HVAC equipment.

For the Smithsonian Institution Building, an amount of \$150,000 is sought to initiate the renovation of most of the existing electrical wiring. Many areas of the Building are served by branch wiring circuits composed of cloth covered, rubber insulated wire in iron conduit. The rubber insulation has become brittle with age and presents shock and fire hazards. Funds of approximately \$450,000 will be required in future years to complete this project.

An amount of \$100,000 is sought to begin an energy audit of the Hirshhorn Museum which is one of the Institution's most inefficient energy consumers. The energy audit will investigate all factors relating to energy use such as power consuming equipment and building conditions. Cost estimates and energy conservation plans then will be developed. Additional funds of approximately \$650,000 will be needed through FY 1986 to continue this project.

An additional amount of \$310,000 is requested for FY 1982 for several HVAC projects. These include evaluation and upgrading components of the Cooper-Hewitt Museum's HVAC system; upgrading the water and sewage systems on Barro Colorado Island (BCI) at the Smithsonian Tropical Research Institute to eliminate health hazards by installing a small water treatment facility; electrical system safety improvements at BCI; a study to determine the cause of ground water seepage into the service entrance conduit that encloses the main power cables at the American History Building; and improvement of electrical service at the Renwick Gallery Building.

OTHER PROJECTS (\$550,000): Projects in this category support the maintenance and development of the Institution's outlying facilities and other projects designed to meet programmatic objectives in the areas of research, collections management and education. Recent major accomplishments in this category include the construction of a new maintenance building at the Chesapeake Bay Center for Environmental Studies; the installation of a seawater

system that meets special research needs at the Smithsonian Tropical Research Institute; and construction of a support annex that now connects two existing telescope buildings at the Mt. Hopkins Observatory. Also at the Observatory, a new dining/commons building is under construction and scheduled for completion during FY 1981. This building will provide a long needed facility for astronomers and other nighttime staff working on the mountain.

--Mt. Hopkins, Arizona, Observatory Site Development (\$500,000)

The Observatory's highest priority facilities objective is completing the required safety improvements for the single lane access road built in 1967. An amount of \$971,000 has been appropriated to date for the project. During FY 1980, detailed plans and specifications were prepared for the last phases of this multi-year project designed to lessen the danger to visitors and staff who require access to the summit of Mt. Hopkins. These last phases involve a three and one half mile section of the rugged, unpaved road. Safety improvements to be continued with funds of \$100,000 appropriated in FY 1981 include insloping, realigning severe curves, drainage improvements, and installation of guardrails and headwalls. An amount of \$500,000 is requested for FY 1982 to continue this project, and it is anticipated that an additional amount of \$300,000 will be requested for FY 1983 to complete the road safety improvements.

--Smithsonian Tropical Research Institute--Facilities Planning (\$50,000)

For FY 1982, an amount of \$50,000 is requested to contract for professional services for a comprehensive survey of all facilities at the Smithsonian Tropical Research Institute in Panama. The existing conditions of some 35 buildings and of all utilities systems must be evaluated and documented. This information then will be used to develop a long-range plan that will outline a systematic program of facilities improvements and changes in order to meet the Institute's research requirements effectively and safely.

RESTORATION AND RENOVATION OF BUILDINGS

PLANNED PROGRAM

FY 1981 - FY 1986

(Dollars in thousands)

	FISCAL YEARS					Total FY 1982-86
	1981	1982	1983	1984	1985	1986
<u>GENERAL REPAIRS AND IMPROVEMENTS</u>						
<u>FACADE, ROOF AND TERRACE REPAIRS</u>						
American Art/Portrait Gallery (AA/PG)	350					
-roof replacement		200				
-repoint facade		10				
-repair stone facade			155	200	200	200
Arts and Industries Building (A&I)						
-roof and exterior renovation /1	1,000	1,000	1,000	1,000	1,000	1,000
Hirshhorn Museum - resurface plaza		50	1,700			
Museum of American History (MAH)						
-recaulk facade	105	150				
-terrace repairs /2	320	250		750	750	
-remove ramp and canopy/waterproof						
-roof replacement						
Museum of Natural History/Museum of Man (MNH/MOM)						
-repair/reglaze windows		50	100	150	250	250
National Air and Space Museum (NASM)						
-facade and terrace repairs	470		200	400	500	500
Renwick Gallery - facade renovation /3	1,000	1,000	500	500	900	900
All other projects in this category	40	235	785	800	545	600
Subtotal, Facade, roof and terrace repairs	3,285	2,945	4,440	3,800	4,145	3,450
						18,780
<u>FIRE DETECTION AND SUPPRESSION SYSTEMS</u>						
A&I - sprinklers and smoke detection		75	100	100	100	
MAH - fire protection master plan	265	250	250	250	450	450
MNH/MOM - fire protection master plan /4	400	300	300	300	450	500
Smithsonian Institution Building - smoke detection	150					
All other projects in this category	220	95	300	135	150	80
Subtotal, Fire detection and suppression systems	1,035	720	950	785	1,150	1,030
						4,635

/1 A total amount of \$1.475 million was appropriated from FY 1977 to FY 1980.

/2 A total amount of \$750,000 was appropriated from FY 1977 to FY 1980.

/3 A total amount of \$900,000 was appropriated from FY 1978 to FY 1980.

/4 A total amount of \$675,000 was appropriated from FY 1979 to FY 1980.

RESTORATION AND RENOVATION OF BUILDINGS
PLANNED PROGRAM
FY 1981 - FY 1986

(Dollars in thousands)	<u>FISCAL YEARS</u>					<u>Total FY 1982-86</u>
	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
<u>ACCESS FOR THE DISABLED, SAFETY AND SECURITY, AND</u>						
<u>CORRECTION OF HAZARDOUS CONDITIONS</u>						
Access for the disabled - various buildings	202	105	295	395	215	1,550
Suitland Facility						
-safety improvements for collections storage buildings		150	150	150	150	750
Asbestos removal/containment	250	250	250	300	300	1,400
Mall security lighting		200	200	200	200	1,000
Proprietary security system		300	300	300	400	1,700
All other projects in this category	240	175	45	270	60	585
Subtotal, Access, safety and security	692	1,180	1,240	1,615	1,325	6,985
<u>UTILITY SYSTEMS REPAIRS AND IMPROVEMENTS</u>						
A&I - HVAC renovation/energy conservation /5	100	200	150	150	200	900
AA/PG - HVAC renovation		225	200	200	400	1,425
Freer Gallery - HVAC renovation	300	380	410			790
Hirshhorn						
-energy study and improvements		100	100	100	250	750
-replace cooling water tower			250			250
MAH - HVAC renovation/energy conservation	330	430	400	400	500	2,230
MNH/MOM - HVAC renovation/energy conservation/ electrical and plumbing renovation	273	375	400	400	500	2,175
NASM - energy conservation study and improvements; HVAC repairs		180		290	350	1,070
Smithsonian Institution Building - electrical renovation		150	150	150	150	600
All other projects in this category	334	310	350	665	630	2,245
Subtotal, Utility systems repairs and improvements	1,337	2,350	2,410	2,355	2,980	12,435

RESTORATION AND RENOVATION OF BUILDINGS
PLANNED PROGRAM
FY 1981 - FY 1986

(Dollars in thousands)

	<u>FISCAL YEARS</u>					<u>Total</u>
	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>FY 1982-86</u>
<u>OTHER PROJECTS</u>						
Chesapeake Bay Center - water system	250					--
MAH - Conservation Laboratory improvements	260			275		275
Mt. Hopkins Observatory						
-road safety improvements /6	100	500	300			800
-renovation of standby power system			200	300		500
-pave roads around telescope buildings					200	400
MNH/MOM - remodel attic spaces			350	250		250
SI Libraries modifications (MNH)						350
Smithsonian Tropical Research Institute						
-master planning, upgrading and additions	<u>325</u>	<u>50</u>	<u>400</u>	<u>355</u>	<u>500</u>	<u>1,905</u>
Subtotal, Other projects	935	550	1,250	1,180	700	4,480
GRAND TOTALS - Restoration and Renovation of Buildings	7,539	8,500	11,200	10,700	11,600	52,800

/6 A total amount of \$871,000 was appropriated from FY 1978 to FY 1980.

CONSTRUCTION

1980 Construction Appropriation (Museum Support Center Construction)..\$20,600,000
1981 Construction Appropriation (Museum Support Center Construction)...\$5,000,000
1982 Construction Estimate (Quadrangle Development).....\$24,135,000

QUADRANGLE DEVELOPMENT

Concept: For FY 1982, an amount of \$24,135,000 is requested for development in the Quadrangle, an area of approximately 4.2 acres located between the Smithsonian Institution Building and Independence Avenue. The funding of the project is conceived of as a joint enterprise between appropriated and nonappropriated funds. Additional funding required for the project will be provided from the Smithsonian's nonappropriated Trust funds, and other sources including donations from other governments, corporations and individuals. Proposed legislation authorizing construction has been approved by the Institution's Board of Regents for introduction early in the 97th Congress.

Development of the Quadrangle is proposed primarily to give increased vitality and attention to African and to Eastern art. Two above ground pavilions with major exhibit galleries will be augmented by additional exhibit and support facilities below grade in the area located between the Arts and Industries Building and the Freer Gallery of Art. Delicate in proportion and sensitive in style, these pavilions will offer appropriate access to a new Museum of African Art and a new center for the exhibition of Eastern art and Eastern studies in association with the Freer Gallery of Art. In addition to the pavilions, the entire above ground area will be landscaped attractively to create, within the Quadrangle, a quiet garden enclave for the public.

Programs of the Museum of African Art and the Freer Gallery of Art will be strengthened substantially by this project.

The Museum of African Art's collection of sculpture, utilitarian objects, musical instruments, textiles, and jewelry is regarded as one of the most important in the United States. The legislative history of Public Law 95-414, which authorized the transfer of the Museum of African Art to the Smithsonian and was signed by the President on October 12, 1978, suggests that the Museum be moved from its present location on Capitol Hill. By providing a Mall site for African art, the Museum will gain visibility as an important National resource, will greatly increase the number of visitors, and will help the public gain a long overdue appreciation of the traditional art forms of African culture by means of an expanded exhibition program that will be possible in the larger space available in the new building. The Museum's education program--including activities of elementary and secondary school children, continuing education groups, and undergraduate courses in cooperation with colleges and universities--will benefit greatly from the classroom facilities planned for in the Quadrangle. A move from its present quarters also will provide for improved care of the collections in proper environmentally controlled conditions, and heightened security for them which is absolutely essential. There also will be improved accessibility to students and scholars.

The Freer Gallery of Art possesses one of the world's great collections of the art of China, Japan, and other cultures of the Middle East and South and East Asia. With the addition of a new center for Eastern Art adjacent to the Freer, the Gallery will become the nucleus of a larger center for the study and exhibition of the art of the Near and Far East and provide additional space and program flexibility. The new center will attract important collections now in private

hands, will encourage regular displays drawn from rich holdings of Eastern art in private and public collections in the United States, and will enable the Smithsonian to serve as host for special exhibitions sponsored by the governments of Eastern nations. (Restrictions in Mr. Freer's Will prohibit the display of traveling exhibitions or loans in the Freer Building.) It also will provide greatly expanded facilities for individual research, and will offer a wide range of educational services to the public. Moreover, specialists in the Freer's art studio and the conservation laboratory, with additional space and improved work areas, will be able to attend to new collections as well as accommodate the growing number of qualified conservators who come to the Freer seeking advanced training and experience.

As the plan is now developed, and if funds permit, the building element located beneath the Quadrangle, would provide additional public space for the National and Resident Associates' Programs; a central education facility for participatory activity; an exhibition area for the Smithsonian Institution Traveling Exhibition Service; and a consolidated rare book facility and parking for visitors and staff.

Accomplishments: The legislation authorizing planning for the development of the Quadrangle (Public Law 96-36) was signed by the President on July 20, 1979. Since 1979, the Institution has been planning and designing the proposed facilities with contract architects and engineers. To date, the Board of Regents has approved the use of approximately \$1.9 million of nonappropriated Trust funds for planning and design purposes. A number of important accomplishments have been achieved to date. These consist of the completion of a formal Program of Requirements with the assistance of the museum consultant firm of E. Verner Johnson; the completion of all requirements under the National Environmental Policy Act, including the preparation of an Environmental Impact Statement which was accepted by the National Capital Planning Commission on November 6, 1980; and initiation of action under Section 106 of the National Historic Preservation Act which requires that consultation be held with appropriate landmark preservation organizations. Significant progress has been made with the design of the project with the assistance of the firm of Junzo Yoshimura of Tokyo, Japan, which was engaged to develop a preliminary design concept, and the firm of Shepley, Bulfinch, Richardson and Abbot, which has proceeded with the development of the design concept.

A completed design concept was presented to the National Capital Planning Commission on January 8, 1981 and the design concept was approved.

Fund raising has been actively pursued since April 1979 when Secretary Ripley visited Tokyo to discuss a center for Eastern art with Japanese government and industry leaders. Subsequently, the late Prime Minister Ohira pledged \$1 million toward the new museum's construction, and this pledge was fulfilled in April of last year. The Institution has an ambitious goal of securing significant amounts from foreign and domestic government agencies, corporations and individuals for various segments of the total project. Moreover, the Institution projects that it will be able to set aside between \$1.0 to \$2.0 million per year from net revenues of auxiliary activities between now and FY 1985. This estimate is based on continued success of these activities, including primarily the Smithsonian Magazine, and may require adjustment to the extent that outside fund raising exceeds its projection or as other priorities of the Institution require.

TAB D

SOURCE AND APPLICATION OF OPERATING FUNDS

SMITHSONIAN INSTITUTION

OVERALL SOURCES AND APPLICATION OF FUNDS

The following tables and schedules show the operating funds provided to the Institution as well as the application of these funds. Appendix E, which follows, contains the Institution's financial report to the Congress and the public and also shows the Smithsonian's financial position for FY 1980.

Schedule 1 summarizes the sources and application of all funds of the Institution--Federal appropriations, grants and contracts from Federal agencies and nonappropriated Trust funds, both restricted and unrestricted. The schedules following this summary show total expenditures for all types of funds for each of the line items discussed in the Salaries and Expenses appropriation request. Figures for nonappropriated Trust funds for FY 1981 and FY 1982 have been approved by the Regents. These figures also have been submitted to the Office of Management and Budget. It must be emphasized that for both of these years, the estimates for nonappropriated Trust funds are subject to change due to the unpredictability of donations to the Institution, fluctuations in visitor attendance and uncertain economic factors affecting restaurant and shop revenues, Associates memberships, and other auxiliary activities.

For FY 1982, overall gross operating funds of the Institution from all sources are projected to equal \$253 million, while net operating income, after deduction of expenses related to auxiliary and bureau activities, is projected at approximately \$173 million. The Federal appropriation request for Salaries and Expenses (\$136.9 million) would amount to approximately 54 percent of the total gross operating revenues, or approximately 79 percent of net operating revenues. Grants and contracts received from Federal agencies are expected to total approximately \$17 million. Nonappropriated Trust funds are derived from gifts, investment income from endowments and current fund balances, and from the net proceeds of auxiliary activities (the Smithsonian magazine and other Associates programs, shops, concessions fees, and book and record sales). Gross revenues of nonappropriated Trust funds are expected to continue to grow as in previous years and reach \$98.5 million by FY 1982. Net income, however, is projected to increase only slightly from \$18.4 million in FY 1980 to \$18.7 million in FY 1982 (of which over \$5 million would be for restricted purposes) because of continued inflationary cost increases adversely affecting auxiliary activities.

The intended use of the Federally appropriated funds is explained in detail in the preceding sections of this request. The uses of nonappropriated Trust funds are similarly described. In summary, nonappropriated Trust funds are applied, in part, to the portion of administrative expenditures unrecovered from overhead charges and to a large number of allotments to the bureaus for programmatic efforts. The largest of these is the \$2 million per year program initiated in FY 1978 to provide funds for the Collections Acquisition, Scholarly Studies and Education Program. Beginning in FY 1979, the Board of Regents also approved the use of the Institution's unrestricted Trust funds for certain programs previously financed with appropriated funds. These programs which continue to be financed by unrestricted Trust funds are the Smithsonian's Institutional Fellowship Program, the Trust fund share of rental costs for administrative units in L'Enfant Plaza, and rental payments by auxiliary activities occupying space on the Mall. For FY 1981, an amount of \$1.4 million will be applied to these programs and a similar amount is projected for FY 1982. In FY 1981, an additional amount of \$1 million of unrestricted Trust funds will be set aside each year for Quadrangle development. Also to be supported in part

from unrestricted funds, as previously reported to the Congress, is the Museum Support Center construction, toward which \$2.5 million is committed and will be made available during FY 1982-84. This amount will be derived from postponing the purchase of conservation equipment (\$750 thousand) and anticipated proceeds from the sale of the Belmont Conference Center.

Finally, assuming that actual financial results for FY 1982 are as now projected, there still should be sufficient surplus to allow a continuing transfer of approximately \$2 million to Smithsonian endowment funds to provide income for future years.

All projections are closely monitored throughout the year with adjustments to estimates dictated by actual results.

	FY 1979	FY 1980	Budget FY 1981	Projected FY 1982
<u>Institutional Operating Funds</u>				
<u>FUNDS PROVIDED</u>				
Federal Appropriations - Salaries & Expenses	\$ 98,202	\$ 107,764	\$ 123,010	\$ 136,886
Federal Agency Grants & Contracts	11,412	12,947	16,384	17,281
Nonappropriated Trust Funds:				
For Restricted Purposes	4,577	5,339	5,279	5,250
For Unrestricted & Special Purposes:				
Auxiliary & Bur. Acts. Revenues--Gross	67,360	75,150	82,493	89,470
--Less Related Expenses	(57,557)	(65,933)	(73,197)	(79,779)
Auxiliary & Bur. Acts. Net Revenue	9,803	9,217	9,296	9,691
Investment, Gift, and Other Income	3,394	3,825	3,346	3,754
Total Net Unrest. & Spec. Purp. Revenue	13,197	13,042	12,642	13,445
Total Unappropriated Trust Funds*--Gross	75,331	84,314	91,118	98,474
--Net	17,774	18,381	17,921	18,695
Total Operating Funds Provided--Gross	184,945	205,025	230,512	252,641
--Net	\$127,388	\$139,092	\$157,315	\$172,862
<u>FUNDS APPLIED</u>				
Science	\$ 53,002	\$ 57,712	\$ 64,720	\$ 69,028
--Less SAO Overhead Recovery	(1,850)	(2,196)	(2,646)	(2,892)
History & Art	20,245	26,224	24,340	25,831
Public Service	2,927	3,129	3,377	3,604
Museum Programs	8,003	8,885	10,175	10,669
Special Programs	2,692	3,488	9,908	12,874
Associates and Business Management	304	345	298	285
Administration--Federal**	7,071	8,048	8,835	9,876
--Nonappropriated Trust Funds	4,134	4,937	5,585	5,905
--Less Smithsonian Overhead Recovery	(4,038)	(4,379)	(5,000)	(5,200)
Facilities Services	27,790	30,630	34,327	38,056
Total Operating Funds Applied	120,280	136,823	153,919	168,036
Transfers (Nonappropriated Trust Funds)				
Unrestricted Funds--To Plant	1,857	1,342	1,325	1,825
--to Endowments	2,671	2,031	2,021	2,021
Restricted Funds--To Endowments	413	757	100	100
Total Operating Funds Applied & Trans. Out	\$125,221	\$140,953	\$157,365	\$171,982
<u>CHANGES IN NONAPPROPRIATED TRUST</u>				
<u>FUND BALANCES</u>				
Restricted Purpose (Incl. Fed. Agency Grants & Contracts)	\$ 171	\$ (225)	\$ (491)	\$ 551
Unrestricted--General Purpose	33	36	65	(49)
--Special Purpose	1,963	(1,672)	376	378
Total	\$ 2,167	\$ (1,861)	\$ (50)	\$ 880
<u>YEAR-END BALANCES--</u>				
<u>NONAPPROPRIATED TRUST FUNDS</u>				
Restricted Purpose	\$ 4,900***	\$ 4,675	\$ 4,184	\$ 4,735
Unrestricted--General Purpose	4,965	5,001	5,066	5,017
--Special Purpose	11,567	9,895	10,271	10,649
Total	\$21,432	\$19,571	\$19,521	\$ 20,401
<u>OTHER FEDERAL APPROPRIATIONS</u>				
Smithsonian Science Information Exchange****	\$ 2,063	\$ --	\$ --	\$ --
Foreign Currency Program	3,700	4,200	3,650	5,500
Construction	6,575	32,100	15,829	39,785
Total Federal Appropriations (Incl. S&E above)	\$110,540	\$144,064	\$142,489	\$182,171

* Figures do not include gifts and other income directly to Plant and Endowment Funds:
FY 1979 - \$96,000; FY 1980 - \$1,211,000

** Includes unobligated funds returned to Treasury: FY 1979 - \$47,000;
FY 1980 - \$267,000

*** Includes addition to fund balance to reflect acquisition of Museum of African Art
restricted purpose fund balance of \$189,000.

**** To be funded through Department of Commerce in FY 1980 and in future years.

Source and Application of Operating Funds
Budget FY 1981

Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted Trust Funds General *		Restricted Trust Funds Spec. Purpose		Restricted Trust Funds		Federal Grants and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
FUNDS PROVIDED												
Federal Appropriation	-	123,010	-	123,010	-	-	-	-	-	-	-	-
Investment /1	-	5,018	-	-	-	2,234	-	405	-	2,379	-	-
Gifts, Grants and Contracts	-	18,584	-	-	-	50	-	50	-	2,100	-	16,384
Auxiliary Activities Revenues												
Associates - Magazine	-	39,217	-	-	-	39,217	-	-	-	-	-	-
- Other	-	9,785	-	-	-	9,785	-	-	-	-	-	-
Museum Shops and Mail Order	-	16,385	-	-	-	16,385	-	-	-	-	-	-
Concessions and Parking	-	2,553	-	-	-	2,553	-	-	-	-	-	-
Other Auxiliary Activities	-	11,684	-	-	-	11,684	-	-	-	-	-	-
Total Auxiliary Activities	-	79,624	-	-	-	79,624	-	-	-	-	-	-
Bureau Activities	-	2,869	-	-	-	-	-	2,869	-	800	-	-
Miscellaneous	-	1,407	-	-	-	50	-	557	-	-	-	-
Total Income	-	230,512	-	123,010	-	81,958	-	3,881	-	5,279	-	16,384
Less Expenses: Auxiliary Activities												
Associates - Magazine	77	33,919	-	-	77	33,919	-	-	-	-	-	-
- Other	63	9,760	-	-	63	9,760	-	-	-	-	-	-
Museum Shops and Mail Order	155	15,697	-	-	155	15,697	-	-	-	-	-	-
Concessions and Parking	21	578	-	-	21	578	-	-	-	-	-	-
Other Auxiliary Activities	75	11,192	-	-	75	11,192	-	-	-	-	-	-
Total Auxiliary Activities	391	71,146	-	-	391	71,146	-	-	-	-	-	-
Bureau Activities	34	2,051	-	-	-	-	34	2,051	-	-	-	-
Net Funds Provided	-	157,315	-	123,010	-	10,812	-	1,830	-	5,279	-	16,384
FUNDS APPLIED (Net/Act. Expense)												
Science (Net)	1,676	62,074	1,306	43,234	82	282	6	997	12	1,553	270	16,008
History and Art	704	24,340	642	19,786	14	652	4	532	44	3,345	-	25
Public Service	90	3,377	72	2,580	17	750	-	-	1	22	-	25
Museum Programs	304	10,175	293	9,368	11	262	-	1	-	519	-	25
Special Programs	41	9,908	27	5,734	13	593	-	3,114	-	193	1	274
Other Activities	8	298	-	-	8	271	-	-	-	-	-	27
Facilities Services	937	34,327	925	33,473	12	842	-	12	-	-	-	-
Administration (Net)	419	9,420	261	8,835	156	469	1	78	1	38	-	-
Total	4,179	153,919	3,526	123,010	313	4,121	11	4,734	58	5,670	271	16,384
TRANSFERS to (From)												
--Current Funds	-	-	-	-	-	3,305	-	(3,305)	-	-	-	-
--Endowment Funds	-	2,121	-	-	-	2,021	-	-	-	100	-	-
--Plant Funds	-	1,325	-	-	-	1,300	-	25	-	-	-	-
FUND BALANCE - Beginning of Year	-	19,571	-	-	-	5,001	-	9,895	-	4,574	-	101
CHANGE IN FUND BALANCE	-	(50)	-	-	-	65	-	376	-	(491)	-	-
FUND BALANCE - End of Year	-	19,521	-	-	-	5,066	-	10,271	-	4,083	-	101
/1 Net of Investment Manager's Fees.												

*Includes unrestricted allotments and auxiliary activities.

Source and Application of Operating Funds

Estimate FY 1982

(Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted Trust Funds		Restricted Trust Funds		Federal Grants and Contracts	
	F/T	Empl.	F/T	Empl.	F/T	Empl.	F/T	Empl.	F/T	Empl.
FUNDS PROVIDED										
Federal Appropriation	-	136,886	-	136,886	-	-	-	-	-	-
Investment / I	-	5,547	-	-	-	-	-	-	-	-
Gifts, Grants and Contracts	-	19,181	-	-	-	-	-	-	-	-
Auxiliary Activities Revenues	-	-	-	-	-	-	-	-	-	-
Associates - Magazine	-	42,834	-	-	-	-	-	-	-	-
- Other	-	12,106	-	-	-	-	-	-	-	-
Museum Shops and Mail Order	-	18,065	-	-	-	-	-	-	-	-
Concessions and Parking	-	2,820	-	-	-	-	-	-	-	-
Other Auxiliary Activities	-	10,735	-	-	-	-	-	-	-	-
Total Auxiliary Activities	-	86,560	-	-	-	-	-	-	-	-
Bureau Activities	-	2,910	-	-	-	-	-	-	-	-
Miscellaneous	-	1,557	-	-	-	-	-	-	-	-
Total Income	-	252,641	-	136,886	-	-	-	-	-	17,281
Less Expenses: Auxiliary Activities										
Associates - Magazine	83	37,005	-	-	83	37,005	-	-	-	-
- Other	64	12,006	-	-	64	12,006	-	-	-	-
Museum Shops and Mail Order	155	17,340	-	-	155	17,340	-	-	-	-
Concessions and Parking	21	621	-	-	21	621	-	-	-	-
Other Auxiliary Activities	83	10,554	-	-	83	10,554	-	-	-	-
Total Auxiliary Activities	406	77,526	-	-	406	77,526	-	-	-	-
Bureau Activities	33	2,253	-	-	-	-	33	2,253	-	-
Net Funds Provided	-	172,862	-	136,886	-	-	-	-	-	17,281
FUNDS APPLIED (Net/Act. Expense)										
Science (Net)	1,668	66,136	1,315	46,507	80	249	5	1,007	11	1,307
History and Art	707	25,831	646	21,465	14	635	4	587	43	3,119
Public Service	91	3,604	73	2,786	17	778	-	-	1	25
Museum Programs	311	10,669	300	10,354	11	278	-	2	-	10
Special Programs	41	12,874	28	8,806	13	619	-	3,221	-	78
Other Activities	8	285	-	-	8	285	-	-	-	-
Facilities Services	947	38,056	935	37,092	12	964	-	-	-	-
Administration (Net)	422	10,581	265	9,876	156	597	-	48	-	60
Total	4,195	168,036	3,562	136,886	311	4,405	9	4,865	56	4,599
TRANSFERS to (From)										
--Current Funds	-	-	-	-	-	-	-	-	-	-
--Endowment Funds	-	2,121	-	-	-	3,440	-	(3,440)	-	-
--Plant Funds	-	1,825	-	-	-	2,021	-	-	-	100
FUND BALANCE - Beginning of Year	-	19,521	-	-	-	5,066	-	10,271	-	4,083
CHANGE IN FUND BALANCE	-	880	-	-	-	(49)	-	378	-	551
FUND BALANCE - End of Year	-	20,401	-	-	-	5,017	-	10,649	-	4,634
/ I Net of Investment Manager's Fees.										

*Includes unrestricted allotments and auxiliary activities.

Source and Application of Operating Funds

(Dollars in thousands)

Budget FY 1981

	Total All Funds		Federal Appropriation		Unrestricted Trust Funds General		Spec. Purpose		Restricted Trust Funds		Federal Grants and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
SCIENCE												
Ass't Secretary, Science	11	705	7	332	-	51	-	30	1	88	3	204
Nat'l Museum of Natural History/ Museum of Man	546	17,553 (1)*	505	15,654	1	45	-	133 (1)*	1	433	39	1,288
Astrophysical Observatory	367	21,150 (14)*	77	5,358	75	2,654	-	97 (14)*	-	69	215	12,972
(SAO Overhead Recovery)	-	(2,646)	-	-	-	(2,646)	-	-	-	-	-	-
Tropical Research Institute	87	3,253 (62)*	85	2,742	2	59	-	63 (62)*	-	39	-	350
Radiation Biology Laboratory	51	2,058	49	1,992	-	-	-	1	1	33	1	32
National Air & Space Museum	255	8,434 (1,104)*	222	6,432	-	12	29	1,794 (1,104)*	-	88	4	108
Chesapeake Bay Center	32	1,814 (16)*	22	844	3	77	-	22 (16)*	-	90	7	781
National Zoological Park	329	9,607	327	9,234	1	30	-	54	-	26	1	263
Center for the Study of Man	13	694	12	646	-	-	-	-	1	38	-	10
Fort Pierce Bureau	8	649	-	-	-	-	-	-	8	649	-	-
TOTAL SCIENCE	1,699	63,271	1,306	43,234	82	282	29	2,194	12	1,553	270	16,008
Less expenses of generating revenue	(23)	(1,197)	-	-	-	-	(23)	(1,197)	-	-	-	-
TOTAL SCIENCE (Net)	1,676	62,074	1,306	43,234	82	282	6	997	12	1,553	270	16,008

*Expenses covered all or in part from revenue of activity.

Source and Application of Operating Funds
Estimate FY 1982

(Dollars in thousands)

SCIENCE	Total		Federal		Unrestricted Trust Funds		Restricted Trust Funds		Federal Grants and Contracts	
	All Funds		Appropriation		General		Spec. Purpose		Trust Funds and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
Ass't Secretary, Science	11	728	7	340	-	52	-	32	1	69
Nat'l Museum of Natural History/ Museum of Man	544	18,399 (1)*	505	16,733	-	27	-	144 (1)*	1	313
Astrophysical Observatory	359	23,599 (14)*	81	5,901	75	2,897	-	87 (14)*	1	71
(SAO Overhead Recovery)	-	(2,892)	-	-	-	(2,892)	-	-	-	-
Tropical Research Institute	88	3,170 (61)*	86	3,003	2	61	-	61 (61)*	-	45
Radiation Biology Laboratory	52	2,321	51	2,266	-	-	-	3	-	23
National Air & Space Museum	254	8,919 (1,258)*	222	6,801	-	10	28	1,941 (1,258)*	-	50
Chesapeake Bay Center	34	1,949 (17)*	23	1,152	3	86	-	33 (17)*	-	-
National Zoological Park	329	9,829	328	9,568	-	8	-	57	-	29
Center for the Study of Man	12	775	12	743	-	-	-	-	-	17
Fort Pierce Bureau	8	690	-	-	-	-	-	-	8	690
TOTAL SCIENCE	1,691	67,487	1,315	46,507	80	249	28	2,358	11	1,307
Less expenses of generating revenue	(23)	(1,351)	-	-	-	-	(23)	(1,351)	-	-
TOTAL SCIENCE (Net)	1,668	66,136	1,315	46,507	80	249	5	1,007	11	1,307

*Expenses covered all or in part from revenue of activity.

Source and Application of Operating Funds

Budget FY 1981

(Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted Trust Funds General		Spec. Purpose		Restricted Trust Funds		Federal Grants and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
HISTORY AND ART												
Ass't Secretary, History and Art	5	255	4	170	1	69	-	16	-	-	-	-
-- Joseph Henry Papers	5	182	5	181	-	-	-	-	-	1	-	-
Nat'l Museum of American History	280	8,449 (5)*	278	7,970	2	92	-	127 (5)*	-	260	-	-
Nat'l Museum of American Art	108	3,926 (4)*	106	3,649	1	55	-	58 (4)*	1	164	-	-
Nat'l Portrait Gallery	80	2,955 (3)*	76	2,662	-	22	-	20 (3)*	4	251	-	-
Hirshhorn Museum	80	2,774 (1)*	80	2,401	-	23	-	35 (1)*	-	315	-	-
Freer Gallery of Art	49	2,005	30	749	-	9	-	-	19	1,247	-	-
Archives of American Art	26	977	17	591	-	-	-	-	9	386	-	-
Cooper-Hewitt Museum	46	2,433 (550)*	22	699	10	368	9	814 (550)*	5	527	-	25
Museum of African Art	35	1,165 (218)*	24	714	-	14	5	243 (218)*	6	194	-	-
TOTAL HISTORY AND ART	714	25,121	642	19,786	14	652	14	1,313	44	3,345	-	25
Less expenses of generating revenue	(10)	(781)	-	-	-	-	(10)	(781)	-	-	-	-
TOTAL HISTORY & ART (Net)	704	24,340	642	19,786	14	652	4	532	44	3,345	-	25

*Expenses covered all or in part from revenue of activity.

Source and Application of Operating Funds
Estimate FY 1982

(Dollars in thousands)

HISTORY AND ART	Total		Federal		Unrestricted Trust Funds		Restricted Trust Funds		Federal Grants and Contracts	
	All Funds		Appropriation		General		Spec. Purpose		Trust Funds	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
Ass't Secretary, History and Art	5	260	4	173	1	71	-	16	-	-
-- Joseph Henry Papers	6	257	6	207	-	-	-	-	-	50
Nat'l Museum of American History	280	8,844 (3)*	278	8,494	2	87	-	116 (3)	-	147
Nat'l Museum of American Art	108	4,202 (4)*	106	4,043	1	45	-	65 (4)	1	49
Nat'l Portrait Gallery	79	3,214 (5)*	76	2,857	-	17	-	22 (5)*	3	318
Hirshhorn Museum	80	2,704	80	2,523	-	19	-	62	-	100
Freer Gallery of Art	50	2,175	31	874	-	19	-	-	19	1,282
Archives of American Art	26	1,052	17	658	-	-	-	-	9	394
Cooper-Hewitt Museum	47	2,610 (571)*	23	794	10	366	9	858 (571)*	5	567
Museum of African Art	36	1,340 (244)*	25	842	-	11	5	275 (244)*	6	212
TOTAL HISTORY AND ART	717	26,658	646	21,465	14	635	14	1,414	43	3,119
Less expenses of generating revenue	(10)	(827)	-	-	-	-	(10)	(827)	-	-
TOTAL HISTORY & ART (Net)	707	25,831	646	21,465	14	635	4	587	43	3,119

*Expenses covered all or in part from revenue of activity.

Source and Application of Operating Funds
Budget FY 1981

(Dollars in thousands)

	Total		Federal		Unrestricted Trust Funds				Restricted Trust Funds		Federal Grants and Contracts	
	All Funds		Appropriation		General**		Spec. Purpose		Trust Funds		Federal Grants and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
PUBLIC SERVICE												
Ass't Secretary, Public Service	7	254	6	219	1	35	-	-	-	-	-	-
-- Office of Telecommunications	8	337	2	52	6	285	-	-	-	-	-	-
-- Visitors Information and Associates Reception Center	11	434	2	33	9	401	-	-	-	-	-	-
Anacostia Neighborhood Museum	20	756	19	727	1	29	-	-	-	-	-	-
International Exchange Service	5	232	5	232	-	-	-	-	-	-	-	-
Division of Performing Arts	30	4,623 (4,168)*	10	408	19	4,168 (4,168)*	-	-	1	22	-	25
Smithsonian Institution Press	35	2,388 (1,479)*	28	909	7	1,479 (1,479)*	-	-	-	-	-	-
Smithsonian Exposition Books	15	3,920 (3,920)*	-	-	15	3,920 (3,920)*	-	-	-	-	-	-
TOTAL PUBLIC SERVICE	131	12,944	72	2,580	58	10,317	-	-	1	22	-	25
Less expenses of generating revenue	(41)	(9,567)	-	-	(41)	(9,567)	-	-	-	-	-	-
TOTAL PUBLIC SERVICE (Net)	90	3,377	72	2,580	17	750	-	-	1	22	-	25

*Expenses covered all or in part from revenue of activity.

**Includes Unrestricted Allotments and Auxiliary Activities.

Source and Application of Operating Funds
Estimate FY 1982

(Dollars in thousands)

	Total		Federal		Unrestricted Trust Funds				Restricted		Federal Grants	
	All Funds		Appropriation		General**		Spec. Purpose		Trust Funds		and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
<u>PUBLIC SERVICE</u>												
Ass't Secretary, Public Service	7	263	6	225	1	38	-	-	-	-	-	-
-- Office of Telecommunications	8	348	2	53	6	295	-	-	-	-	-	-
-- Visitors Information and Associates Reception Center	11	477	2	64	9	413	-	-	-	-	-	-
Anacostia Neighborhood Museum	20	788	19	756	1	32	-	-	-	-	-	-
International Exchange Service	5	247	5	247	-	-	-	-	-	-	-	-
Division of Performing Arts	34	4,302 (3,800)*	10	462	23	3,800 (3,800)*	-	-	1	25	-	15
Smithsonian Institution Press	37	2,060 (1,081)*	29	979	8	1,081 (1,081)*	-	-	-	-	-	-
Smithsonian Exposition Books	15	3,920 (3,920)*	-	-	15	3,920 (3,920)*	-	-	-	-	-	-
TOTAL PUBLIC SERVICE	137	12,405	73	2,786	63	9,579	-	-	1	25	-	15
Less expenses of generating revenue	(46)	(8,801)	-	-	(46)	(8,801)	-	-	-	-	-	-
TOTAL PUBLIC SERVICE (Net)	91	3,604	73	2,786	17	778	-	-	1	25	-	15

*Expenses covered all or in part from revenue of activity.

**Includes Unrestricted Allotments and Auxiliary Activities.

Source and Application of Operating Funds
Budget FY 1981

(Dollars in thousands)

	Total		Federal		Unrestricted Trust Funds		Restricted Trust Funds		Federal Grants	
	F/T	Empl.	F/T	Empl.	F/T	Empl.	F/T	Empl.	F/T	Empl.
MUSEUM PROGRAMS										
Ass't Secretary, Museum Programs	5	206	5	201	-	4	-	1	-	-
-- Office of Museum Programs	11	350 (32)*	11	318	-	-	-	32 (32)*	-	-
-- South Group Buildings Manager	41	811	41	812	-	-	-	(1)	-	-
-- Office of Horticulture	30	1,081 (31)*	29	1,015	-	4	1	31 (31)*	-	-
-- International Activities	5	171	5	171	-	1	-	-	-	-
Office of the Registrar	4	128	4	128	-	-	-	-	-	-
Conservation Analytical Laboratory	29	915	29	915	-	-	-	-	-	-
Smithsonian Libraries	109	3,288	100	3,072	9	208	-	-	8	-
Office of Exhibits Central	47	1,373	47	1,372	-	-	-	1	-	-
Traveling Exhibition Service	24	1,745 (1,065)*	6	175	18	1,065 (1,065)*	-	-	480	25
Smithsonian Archives	15	429	13	384	2	45	-	-	-	-
National Museum Act	3	806	3	806	-	-	-	-	-	-
TOTAL MUSEUM PROGRAMS	323	11,303	293	9,368	29	1,327	1	64	519	25
Less expenses of generating revenue	(19)	(1,128)	-	-	(18)	(1,065)	(1)	(63)	-	-
TOTAL MUSEUM PROGRAMS (Net)	304	10,175	293	9,368	11	262	-	1	519	25

*Expenses covered all or in part from revenue of activity.

**Includes Unrestricted Allotments and Auxiliary Activities.

Source and Application of Operating Funds
Estimate FY 1982

(Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted**		Trust Funds Spec. Purpose		Restricted Trust Funds		Federal Grants and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
MUSEUM PROGRAMS												
Ass't Secretary, Museum Programs	5	214	5	209	-	4	-	1	-	-	-	-
		371						38				
-- Office of Museum Programs	11	(38)*	11	333	-	-	-	(38)*	-	-	-	-
-- South Group Buildings Manager	41	889	41	891	-	-	-	(2)	-	-	-	-
		1,139						28				
-- Office of Horticulture	29	(27)*	29	1,098	-	8	-	(27)*	-	5	-	-
-- International Activities	5	173	5	171	-	2	-	-	-	-	-	-
Office of the Registrar	5	156	5	156	-	-	-	-	-	-	-	-
Conservation Analytical Laboratory	33	1,073	33	1,073	-	-	-	-	-	-	-	-
Smithsonian Libraries	109	3,651	100	3,430	9	216	-	-	-	5	-	-
Office of Exhibits Central	47	1,411	47	1,409	-	-	-	2	-	-	-	-
		1,686										
Traveling Exhibition Service	29	(1,312)*	8	349	21	(1,312)*	-	-	-	-	-	25
Smithsonian Archives	15	472	13	424	2	48	-	-	-	-	-	-
National Museum Act	3	811	3	811	-	-	-	-	-	-	-	-
TOTAL MUSEUM PROGRAMS	332	12,046	300	10,354	32	1,590	-	67	-	10	-	25
Less expenses of generating revenue	(21)	(1,377)	-	-	(21)	(1,312)	-	(65)	-	-	-	-
TOTAL MUSEUM PROGRAMS (Net)	311	10,669	300	10,354	11	278	-	2	-	10	-	25

*Expenses covered all or in part from revenue of activity.

**Includes Unrestricted Allotments and Auxiliary Activities.

Source and Application of Operating Funds

Budget FY 1981

(Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted General		Trust Funds Spec. Purpose		Restricted Trust Funds		Federal Grants and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
<u>SPECIAL PROGRAMS</u>												
American Studies and Folklife Prog.	16	1,294	5	534	11	467	-	14	-	129	-	150
Int'l Environmental Science Program	2	501	2	501	-	-	-	-	-	-	-	-
<u>ACADEMIC AND EDUCATIONAL PROGRAMS</u>												
-- Office of Fellowships and Grants	10	303	9	263	1	24	-	-	-	16	-	-
-- Fellowships Awards	-	800	-	-	-	-	-	800	-	-	-	-
-- Regents' Fellowships	-	100	-	-	-	-	-	100	-	-	-	-
-- Symposia and Seminars	4	240	3	79	1	82	-	-	-	29	-	50
-- Elementary & Secondary Education	7	300	7	261	-	20	-	-	-	19	-	-
Collections Mgmt./Inventory Program	-	582	-	582	-	-	-	-	-	-	-	-
Collections Acquisition, Scholarly Studies and Education Program	-	2,200	-	-	-	-	-	2,200	-	-	-	-
Major Exhibition Program	-	750	-	750	-	-	-	-	-	-	-	-
Museum Support Center Equipment	-	2,711	-	2,711	-	-	-	-	-	-	-	-
Research Awards Program	-	-	-	-	-	-	-	-	-	-	-	-
Native American Program	2	127	1	53	-	-	-	-	-	-	1	74
TOTAL SPECIAL PROGRAMS	41	9,908	27	5,734	13	593	-	3,114	-	193	1	274
Less expenses of generating revenue	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL SPECIAL PROGRAMS (Net)	41	9,908	27	5,734	13	593	-	3,114	-	193	1	274

Source and Application of Operating Funds
Estimate FY 1982

(Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted Trust Funds				Restricted Trust Funds		Federal Grants and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	General		Spec. Purpose		F/T Empl.	\$	F/T Empl.	\$
					F/T Empl.	\$	F/T Empl.	\$				
SPECIAL PROGRAMS												
American Studies and Folklife Prog.	16	1,292	5	591	11	480	-	21	-	50	-	150
Int'l Environmental Science Program	2	626	2	626	-	-	-	-	-	-	-	-
ACADEMIC AND EDUCATIONAL PROGRAMS												
-- Office of Fellowships and Grants	10	307	9	270	1	25	-	-	-	12	-	-
-- Fellowships Awards	-	900	-	-	-	-	-	900	-	-	-	-
-- Regents' Fellowships	-	100	-	-	-	-	-	100	-	-	-	-
-- Symposia and Seminars	4	172	3	81	1	88	-	-	-	3	-	-
-- Elementary & Secondary Education	7	337	7	298	-	26	-	-	-	13	-	-
Collections Mgmt./Inventory Program	-	792	-	792	-	-	-	-	-	-	-	-
Collections Acquisition, Scholarly Studies and Education Program	-	2,200	-	-	-	-	-	2,200	-	-	-	-
Major Exhibition Program	-	1,000	-	1,000	-	-	-	-	-	-	-	-
Museum Support Center Equipment	-	4,495	-	4,495	-	-	-	-	-	-	-	-
Research Awards Program	-	300	-	300	-	-	-	-	-	-	-	-
Native American Program	2	353	2	353	-	-	-	-	-	-	-	-
TOTAL SPECIAL PROGRAMS	41	12,874	28	8,806	13	619	-	3,221	-	78	-	150
Less expenses of generating revenue	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL SPECIAL PROGRAMS (Net)	41	12,874	28	8,806	13	619	-	3,221	-	78	-	150

Source and Application of Operating Funds

Budget FY 1981

(Dollars in thousands)

(DOLLARS IN THOUSANDS)												
MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES	Total All Funds		Federal Appropriation		Unrestricted Trust Funds			Restricted Trust Funds		Federal Grants and Contracts		
	F/T Empl.	\$	F/T Empl.	\$	General**		Spec. Purpose		F/T Empl.	\$	F/T Empl.	\$
					F/T Empl.	\$*	F/T Empl.	\$*				
Office of Membership & Development	8	281 (10)	-	-	8	271	-	10 (10)	-	-	-	-
Smithsonian Magazine	77	33,919 (33,919)	-	-	77	33,919 (33,919)	-	-	-	-	-	-
National Associates Program	23	7,335 (7,335)	-	-	23	7,335 (7,335)	-	-	-	-	-	-
Resident Associates Program	40	2,452 (2,425)	-	-	40	2,425 (2,425)	-	-	-	-	-	27
Business Management Office	3	187 (187)	-	-	3	187	-	-	-	-	-	-
Museum Shops	123	8,540 (8,540)	-	-	123	8,540 (8,540)	-	-	-	-	-	-
Mail Order	32	6,970 (6,970)	-	-	32	6,970 (6,970)	-	-	-	-	-	-
Concessions	2	164 (164)	-	-	2	164 (164)	-	-	-	-	-	-
Parking	19	414 (414)	-	-	19	414 (414)	-	-	-	-	-	-
Belmont Conference Center	8	446 (446)	-	-	8	446 (446)	-	-	-	-	-	-
TOTAL MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES	335	60,708	-	-	335	60,671	-	10	-	-	-	27
Less expenses of generating revenue	(327)	(60,410)	-	-	(327)	(60,400)	-	(10)	-	-	-	-
TOTAL MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES (Net)	8	298	-	-	8	271	-	-	-	-	-	27

*Expenses covered all or in part from revenue of activity.

**Includes Unrestricted Allotments and Auxiliary Activities.

Source and Application of Operating Funds

Estimate FY 1982

(Dollars in thousands)

MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES	Total		Federal		Unrestricted Trust Funds				Restricted		Federal Grants	
	All Funds		Appropriation		General**		Spec. Purpose		Trust Funds		and Contracts	
	F/T	Empl.	F/T	Empl.	F/T	Empl.	F/T	Empl.	F/T	Empl.	F/T	Empl.
Office of Membership & Development	8	295 (10)	-	-	8	285	-	-	-	-	-	-
Smithsonian Magazine	83	37,005 (37,005)	-	-	83	37,005 (37,005)	-	-	-	-	-	-
National Associates Program	24	9,444 (9,444)	-	-	24	9,444 (9,444)	-	-	-	-	-	-
Resident Associates Program	40	2,562 (2,562)	-	-	40	2,562 (2,562)	-	-	-	-	-	-
Business Management Office	3	200 (200)	-	-	3	200 (200)	-	-	-	-	-	-
Museum Shops	123	9,315 (9,315)	-	-	123	9,315 (9,315)	-	-	-	-	-	-
Mail Order	32	7,825 (7,825)	-	-	32	7,825 (7,825)	-	-	-	-	-	-
Concessions	2	172 (172)	-	-	2	172 (172)	-	-	-	-	-	-
Parking	19	449 (449)	-	-	19	449 (449)	-	-	-	-	-	-
Belmont Conference Center	8	461 (461)	-	-	8	461 (461)	-	-	-	-	-	-
TOTAL MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES	342	67,728	-	-	342	67,718	-	-	-	-	-	-
Less expenses of generating revenue	(334)	(67,443)	-	-	(334)	(67,433)	-	-	-	-	-	-
TOTAL MEMBERSHIP, DEVELOPMENT AND AUXILIARY ACTIVITIES (Net)	8	285	-	-	8	285	-	-	-	-	-	-

*Expenses covered all or in part from revenue of activity.

**Includes Unrestricted Allotments and Auxiliary Activities.

Source and Application of Operating Funds
Budget FY 1981

(Dollars in thousands)

	Total		Federal		Unrestricted Trust Funds				Restricted Trust Funds		Federal Grants and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	General** \$	F/T Empl.	Spec. Purpose \$	F/T Empl.	\$	F/T Empl.	\$
<u>FACILITIES SERVICES</u>												
Office of Design and Construction	43	1,505	36	1,307		7	198	-	-	-	-	-
Protection Services	563	11,429	563	11,411		-	6	-	-	-	-	-
Office of Plant Services	331	21,393	326	20,755		5	638	-	-	-	-	-
TOTAL FACILITIES SERVICES	937	34,327	925	33,473		12	842	-	-	-	-	-
<u>ADMINISTRATION</u>												
Less Overhead Recovery***	424 (5)	14,534 (114)*	261	8,835		161 (5)	5,583 (114)*	1	78	1	38	-
ADMINISTRATION (Net)							(5,000)	-	-	-	-	-
	419	9,420	261	8,835		156	469	1	78	1	38	-
GRAND TOTAL APPLIED	4,179	153,919	3,526	123,010		313	4,121	11	4,734	58	5,670	16,384

*Expenses covered all or in part from revenue of activity.

**Includes Unrestricted Allotments and Auxiliary Activities.

***See Astrophysical Observatory under SCIENCE for balance of overhead recovery.

Source and Application of Operating Funds
Estimate FY 1982

(Dollars in thousands)

	Total All Funds		Federal Appropriation		Unrestricted General**		Trust Funds Spec. Purpose		Restricted Trust Funds		Federal Grants and Contracts	
	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$	F/T Empl.	\$
<u>FACILITIES SERVICES</u>												
Office of Design and Construction	44	1,673	37	1,465	7	208	-	-	-	-	-	-
Protection Services	571	12,113	571	12,107	-	6	-	-	-	-	-	-
Office of Plant Services	332	24,270	327	23,520	5	750	-	-	-	-	-	-
TOTAL FACILITIES SERVICES	947	38,056	935	37,092	12	964	-	-	-	-	-	-
<u>ADMINISTRATION</u>												
Less Overhead Recovery***	427 (5)	15,965 (184)*	265	9,876	161 (5)	5,981 (184)*	-	48	1	60	-	-
ADMINISTRATION (Net)	422	10,581	265	9,876	156	597	-	48	1	60	-	-
GRAND TOTAL APPLIED	4,195	168,036	3,562	136,886	311	4,405	9	4,865	56	4,599	257	17,281

*Expenses covered all or in part from revenue of activity.

**Includes Unrestricted Allotments and Auxiliary Activities.

***See Astrophysical Observatory under SCIENCE for balance of overhead recovery.

TAB E

APPENDIX

SMITHSONIAN INSTITUTION
"Salaries and Expenses"

Report of Appropriation by Objects of Expense
(Dollars in thousands)

	<u>1980 Actual</u>	<u>1981 Base</u>	<u>1982 Estimate</u>	<u>Increase 1982 over 1981</u>
11 Personnel Compensation.....	71,240	80,217	83,756	3,539
12 Personnel Benefits.....	6,869	7,851	8,192	341
21 Travel & Transportation of Persons.....	666	780	1,002	222
22 Transportation of Things.....	422	466	655	189
23 Rent, Communications and Utilities.....	11,423	13,571	15,918	2,347
24 Printing and Reproduction.....	1,218	1,375	1,787	412
25 Other Services.....	6,470	7,376	9,475	2,099
26 Supplies and Materials.....	5,544	5,043	6,452	1,409
31 Equipment.....	1,978	5,339	7,966	2,627
Acquisitions for Collections	830	889	942	53
32 Land and Structures.....	57			
41 Grants.....	771	720	723	3
42 Insurance Claims and Indemnities.....	<u>9</u>	<u>8</u>	<u>18</u>	<u>10</u>
TOTAL.....	107,497	123,635 ^{/1}	136,886	13,251

^{/1} This amount includes required supplemental funding of \$5,970 thousand for the cost of the FY 1981 legislated pay raises.

SMITHSONIAN VISITORS
(By Fiscal Year)

Fiscal Year	Smithsonian Institution Building	Arts and Industries Building	Museum of Natural History	National Air & Space Building	Freer Gallery of Art	Museum of American History	American Art & Portrait Gallery	Renwick Gallery	Hirshhorn Museum & Sculpture Garden	Total
1961	1,024,526	2,912,371	2,047,973	987,858	130,746					7,103,474
1962	1,222,112	3,471,050	2,113,053	1,986,319	130,597					8,923,131
1963	1,630,280	3,534,182	2,288,397	2,673,618	183,359					10,309,836
1964	1,311,061	2,457,243	2,512,306	1,854,186	168,625	2,509,774				10,813,195
1965	1,065,635	2,028,175	3,051,472	1,705,683	210,972	5,091,776				13,153,713 ^{/6}
1966	870,010	1,746,715	2,988,006	1,494,922	222,089	4,829,112				12,150,854
1967	1,020,312	1,638,873	3,409,957	1,484,422	212,920	5,546,102				13,312,586 ^{/8}
1968	847,176	1,344,622	3,257,957	1,123,698	169,533	4,750,023	30,888			11,523,897 ^{/9}
1969	275,259 ^{/7}	1,493,141	2,916,749	1,225,959	179,374	4,174,071	166,177			10,430,730 ^{/9}
1970		2,557,155	3,269,791	1,839,373	217,305	5,483,555	216,523			13,583,702
1971	681,255	1,985,732	3,456,755	1,337,445	190,425	5,955,128	194,468			13,801,208
1972	819,617	2,306,071	3,414,640	1,104,151	230,475	6,808,526	246,657	105,186		15,035,323
1973	807,294	2,285,603	3,306,105	1,223,917	204,858	6,905,339	254,005	165,846		15,152,967
1974	739,651	2,040,731	3,067,694	1,285,598	219,346	5,850,227	329,487	175,672		13,708,406
1975	967,164	1,973,356	3,668,587	1,416,432	215,061	7,111,054	368,948	165,433		17,506,575
1976	1,033,803	592,400 ^{/10}	4,342,601	1,451,049 ^{/11}	225,257	6,318,964	465,231	222,351	1,620,540	16,239,284
T.Q.	291,808	543,007	1,535,613	3,062,254 ^{/11}	59,217	1,470,708	112,682	46,661	1,587,628	7,556,365
1977	755,146	1,223,703	4,925,741	9,886,350	214,675	4,307,020	399,364	155,792	434,415	23,210,683
1978	757,485	903,081	5,366,159	10,028,888	244,493	4,050,687	480,947	201,284	1,299,134	23,332,158
1979	877,835	940,843	5,594,748	10,151,359	286,269	4,367,183	434,481	188,788	1,211,439	24,052,945
1980	1,023,394	1,227,597	5,202,864	7,257,648	311,845	4,625,477	371,539	235,525	978,820	21,234,709

^{/1} National Museum of American History opened January 1964.

^{/2} National Museum of American Art opened May 1968 and National Portrait Gallery in October 1968.

^{/3} Renwick Gallery opened January 1972.

^{/4} Hirshhorn Museum and Sculpture Garden opened October 1974.

^{/5} Excluded from these totals are over 3 million visitors annually to the National Zoological Park, 49,000 to the Anacostia Museum, 135,000 to the Cooper-Hewitt Museum in New York and approximately 78,000 visitors to the Museum of African Art.

^{/6} July-August 1964, certain Smithsonian Institution buildings were open 4:30 to 10 p.m. for the first time.

^{/7} Building closed for renovation October 1968.

^{/8} Reflects the significant decrease in visitors in the Nation's Capital in the first six months of CY 1968 due to unsettled local conditions.

^{/9} Fiscal year 1969 visitor totals represent the effect of local conditions in late 1968 on visitor attendance.

^{/10} Building closed for installation of "1876" exhibition September, 1975 through April, 1976.

^{/11} Old building closed November 1975. Foyer of new museum opened to visitors February 1976. New building completely opened July 1, 1976.

SMITHSONIAN INSTITUTION

1980

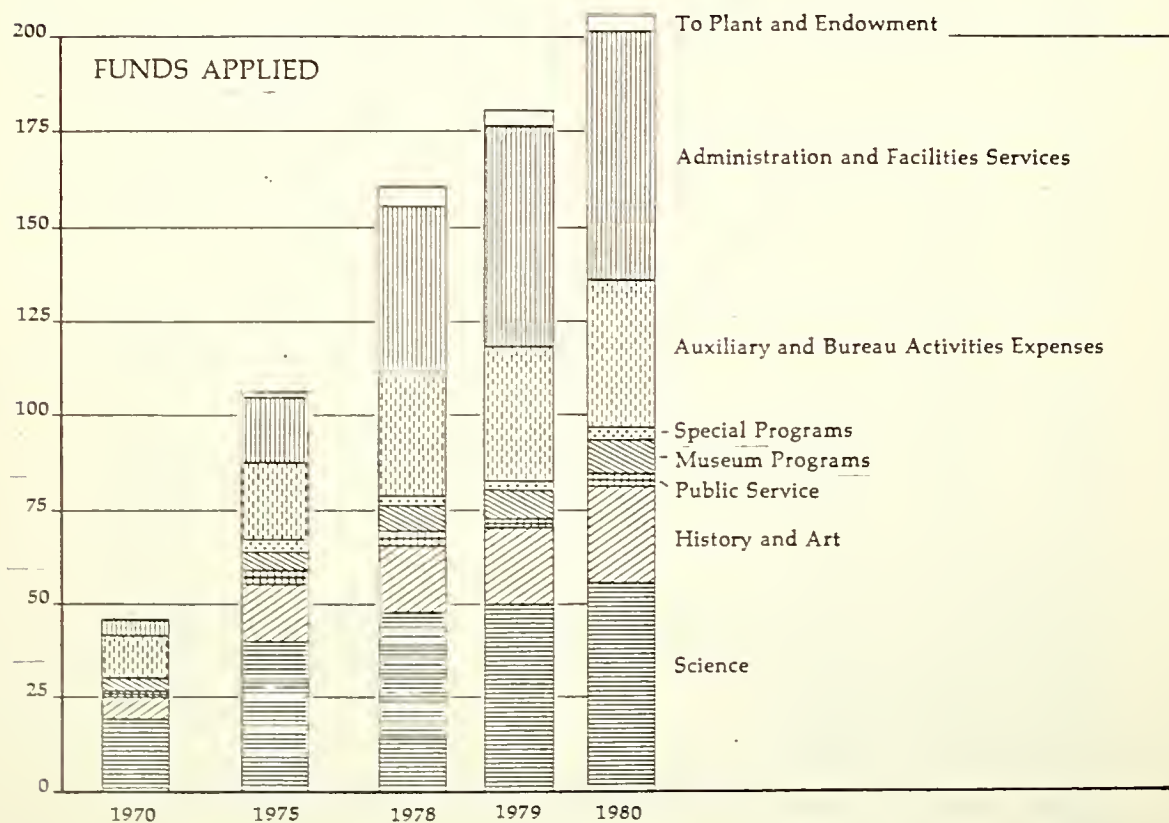
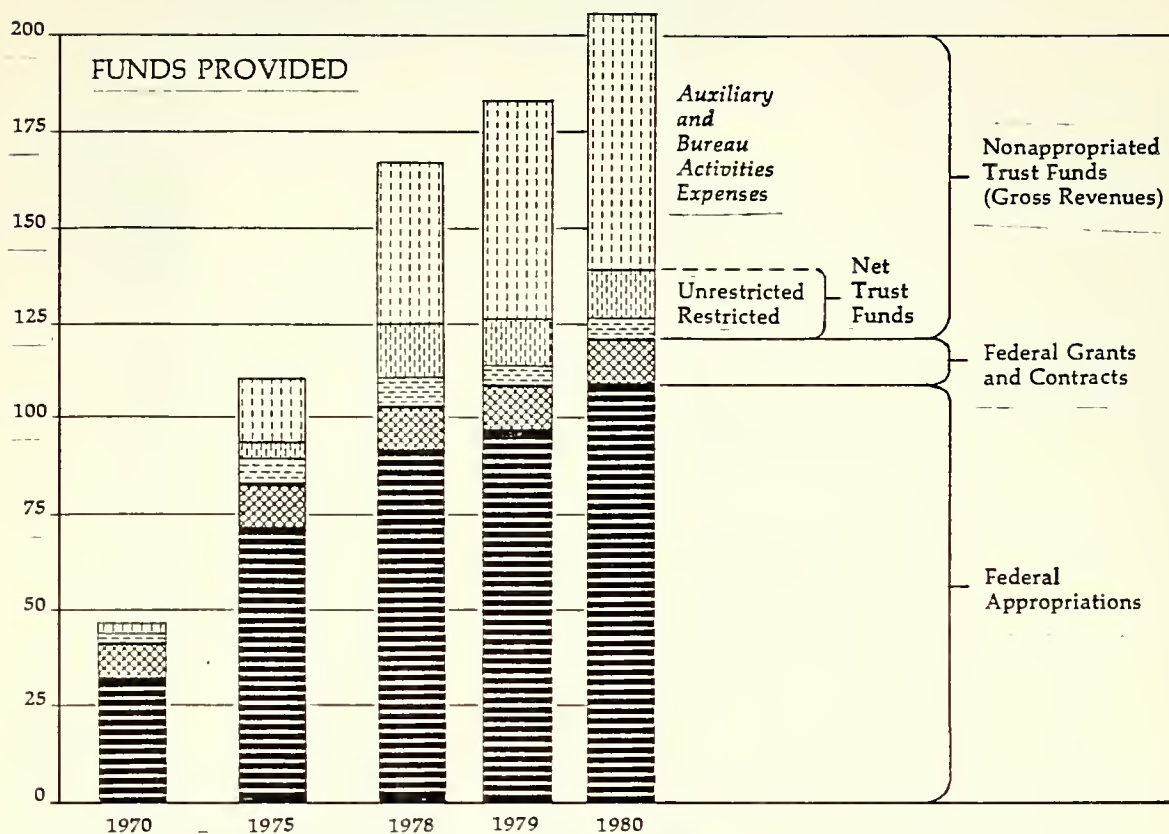
FINANCIAL REPORT

CHRISTIAN C. HOHENLOHE, TREASURER

SMITHSONIAN INSTITUTION OPERATING FUNDS

Fiscal Years 1970, 1975, and 1978-1980

(In \$1,000,000's)



FINANCIAL REPORT

CHRISTIAN C. HOHENLOHE, TREASURER

SUMMARY: During fiscal year 1980 the Smithsonian received strong financial support from the Congress, from donors, from granting agencies, and from revenue-generating auxiliary activities. This mix of funding from public and private sources, from gifts and earned income, permitted notable progress and accomplishments in research, exhibits, publication and public education. Growth in the overall budget of the Institution in fiscal year 1980 and prior years may be seen in the bar chart on the facing page which displays the source and application by broad category of operating funds. In the context of unusually high inflation, however, this growth was mainly illusory; the larger part of the increased budget was necessarily devoted to keeping up with the higher costs of salaries and supplies, of utilities and collection purchases, with the balance limited to selected high priority concerns of the Institution. The full-time staff of the Smithsonian grew less than 3 percent over the year, and the increase was almost exclusively in personnel for administrative and facilities services, for auxiliary activities, and for short-term research projects.

In a time of difficulty for most cultural and research organizations, the continued generous support of the Congress was greatly appreciated. The overall federal appropriations, which totaled over \$144 million, provided core support for basic research, exhibition, and education programs; for acquisition, care, documentation, and study of the national collections; and for construction, maintenance, restoration, and protection of Smithsonian facilities. Beyond offsetting the major portion of uncontrollable cost increases, appropriations for operating purposes gave significant new funding for the Museum of African Art, for collections inventory

and management, and for administrative offices. The Museum Support Center, for which \$20.6 million of construction funding was appropriated, will be of immeasurable benefit to the Smithsonian in carrying out its responsibilities of caring for the national collections for future generations. Also of great importance were construction funds to allow forward progress on the facilities development for the National Zoological Park, as well as moneys for the less visible but necessary repairs and renovations of other Smithsonian buildings.

Favorable public support for the Institution also continued, as evidenced by the success of the ongoing Smithsonian Associates program and other educational auxiliary activities, as well as gifts and grants from individuals and foundations. These revenues allow the Institution to fund a significant portion of its programs from nonappropriated sources, extending the reach of the research and education activities beyond what is supported with federal appropriations. Net revenues from nonappropriated sources, after deduction of operating expenses and cost of sales of auxiliary activities, increased slightly over last year. This was sufficient to continue ongoing programs such as the Regents Collections Acquisition, Scholarly Studies, and Educational Outreach programs, operating allotments to numerous bureaus, and reserves for construction and land acquisition. The major collection purchase of the year was, of course, the acquisition of the Gilbert Stuart portraits of George and Martha Washington. Increasing the endowment funds is a high priority of the Institution, in order to maintain the balance of appropriated and nonappropriated funds which has been a source of strength in meeting goals and seizing new opportunities. The Regents, therefore, followed the practice of recent years and authorized transfer of some \$2 million of unrestricted trust funds into endowment, as well as a further \$650,000 of National Air and Space Museum current funds into a fellowship endowment.

Measured progress continued this year in obtaining funds for the Quadrangle, the site of a future center for Eastern Art as well as the new home for the Museum of African Art, south of the Smithsonian Castle; a gift of \$1 million was received for the project from the government of Japan, and indications of further gifts from other sources were favorable. The Quadrangle will be com-

TABLE 1. *Financial Summary*
(\$1,000's)

	FY 1978	FY 1979	FY 1980
INSTITUTIONAL OPERATING FUNDS			
FUNDS PROVIDED:			
Federal Appropriations—Salaries & Expenses	\$ 93,393	\$ 98,202	\$107,764
Federal Agency Grants & Contracts	11,157	11,412	12,947
Nonappropriated Trust Funds:			
For Restricted Purposes	6,538	4,577	5,339
For Unrestricted & Special Purposes:			
Auxiliary & Bureau Activities Revenues—Gross	55,189	67,360	75,150
—Less Related Expenses	(43,070)	(57,557)	(65,933)
Auxiliary & Bureau Activities Net Revenue	12,119	9,803	9,217
Investment, Gift, and Other Income	2,241	3,394	3,825
Total Net Unrest. & Special Purpose Revenue ..	14,360	13,197	13,042
Total Nonappropriated Trust Funds*—Gross	63,968	75,331	84,314
—Net	20,898	17,774	18,381
Total Operating Funds Provided—Gross	168,518	184,945	205,025
—Net	\$125,448	\$127,388	\$139,092
FUNDS APPLIED:			
Science	\$ 50,396	\$ 53,002	\$ 57,907
—Less: SAO Overhead Recovery	(1,841)	(1,850)	(2,196)
History & Art	19,105	20,245	26,224
Public Service	2,799	2,927	3,129
Museum Programs	7,454	8,003	8,974
Special Programs	1,981	2,692	3,204
Associates and Business Management	244	304	345
Administration—Federal**	6,346	7,071	8,048
—Nonappropriated Trust Funds	3,795	4,134	4,937
—Less Smithsonian Overhead Recovery	(3,359)	(4,038)	(4,379)
Facilities Services	25,985	27,790	30,630
Total Operating Funds Applied	112,905	120,280	136,823
Transfers (Nonappropriated Trust Funds)			
Unrestricted Funds—To Plant	869	1,857	1,342
—To Endowments	3,271	2,671	2,031
Restricted Funds—To Endowments	1,261	413	757
Total Operating Funds Applied & Transferred Out	\$118,306	\$125,221	\$140,953
CHANGES IN NONAPPROPRIATED TRUST FUND BALANCES:			
Restricted Purpose (Incl. Fed. Agency Gr. & Cont.)	\$ 980	\$ 171	\$ (225)
Unrestricted—General Purpose	850	33	36
—Special Purpose	5,312	1,963	(1,672)
Total	\$ 7,142	\$ 2,167	\$ (1,861)
YEAR-END BALANCES—			
NONAPPROPRIATED TRUST FUNDS:			
Restricted Purpose	\$ 4,540	\$ 4,900	\$ 4,675
Unrestricted—General Purpose	4,932	4,965	5,001
—Special Purpose	9,604	11,567	9,895
Total	\$ 19,076	\$ 21,432	\$ 19,571
OTHER FEDERAL APPROPRIATIONS			
Smithsonian Science Information Exchange	\$ 1,857	\$ 2,063	\$ —
Foreign Currency Program	4,000	3,700	4,200
Construction	5,250	6,575	32,100
Total Federal Appropriations (Incl. S&E above) ..	\$104,500	\$110,540	\$144,064

* Figures do not include gifts and other income directly to Plant and Endowment Funds: FY 1978—\$185,000; FY 1979—\$96,000; FY 1980—\$1,211,000.

** Includes unobligated funds returned to Treasury: FY 1978—\$112,000; FY 1979—\$47,000; FY 1980—\$267,000.

pleted only with strong financial support from private contributions, self-generated funds from auxiliary activities, and appropriated funds; efforts to secure this support will continue in earnest.

Operating Funds—Sources and Application

The growth in past years of the Institution's overall operating budget has continued in fiscal year 1980, as may be seen in both Table 1 and the bar chart at the head of this section. Total gross operating funds grew from \$184,945,000 in fiscal year 1979, to \$205,025,000 in fiscal year 1980, an increase of \$20,080,000, or 11 percent. Federal appropriations constitute 53 percent of total gross operating funds provided, federal agency grants and contracts 6 percent, and nonappropriated funds 41 percent, the same ratios as last year.

After deducting the expenses of the nonappropriated fund auxiliary and bureau activities, the growth in net operating funds was 9 percent over fiscal year 1979. This increase in net funds of \$11,704,000 was primarily in federal appropriations (\$9,562,000) and federal agency grants and contracts (\$1,535,000). Net operating funds, supporting the wide range of Smithsonian programs and activities, are derived 78 percent from federal appropriations, 9 percent from federal agency grants and contracts, and 13 percent from nonappropriated sources. Application of these moneys by all Smithsonian bureaus is set forth in Table 2, with further supporting detail in other tables.

FEDERAL APPROPRIATION

Federal funds totaling \$107,764,000, an increase of approximately \$9.6 million over fiscal year 1979, were provided to the Institution for operating purposes. As in the past several years, a major portion of this increase was directed to generally uncontrollable items. Inflation in the areas of salaries and utilities accounted for some \$6.9 million of the increase, while an additional \$500,000 was required to fund the first full year of operating costs for the Museum of African Art. The balance of \$2.2 million was applied to a variety of program requirements. Collections management, a high priority

of the Institution, received additional funding of over \$1 million to support collections inventory, storage, and conservation in bureaus throughout the Institution, furthering efforts to gain more effective inventory control over the collections and to conserve the valuable objects and specimens. A second area of emphasis was the strengthening of administrative capabilities, particularly in the areas of facilities planning and personnel management. In the first instance the growth reflected increased focus by the Institution on maintaining and preserving its physical plant, while in the latter, the growth was needed to meet new requirements created by both the Civil Service Reform Act of 1978 and the Panama Canal Treaty. Implementation of this treaty also necessitated major new funding for the Tropical Research Institute for personnel benefits and security needs. Finally, increased support was provided for exhibit protection and various other priorities of the Institution. For seven months of fiscal year 1980 the Institution was subject to a hiring limitation imposed by the president of the United States; resultant savings in personnel costs and cuts in other expenses were applied towards a \$550,000 deficit in utilities funding created by price increases that were beyond the Institution's control.

FEDERAL AGENCY GRANTS AND CONTRACTS

A major source of support, particularly for the Institution's research activities, is federal agency grants and contracts (including subcontracts from organizations receiving federal prime funding). The funding agencies for the awards, which in fiscal year 1980 accounted for 9 percent of net operating revenue, or approximately \$13 million, are summarized in Table 3. As may be seen from this table, the majority of these funds was from the National Aeronautics and Space Administration, (NASA), primarily for the Smithsonian Astrophysical Observatory (SAO) which, as in past years, received substantially more grant support than other Smithsonian bureaus. NASA grants supported important space science projects in high-energy astrophysics and radio/geoastronomy, including preparation of instruments for the Space Shuttle program. SAO also received significant funding from the National Science Foundation and the Department of Defense, as did the National Museum of Natural History for operations of the Oceanographic Sorting Center and for continuation of the Medical Entomology Project. Other

TABLE 2. Source and Application of Operating Funds
Year Ended September 30, 1980
(Excludes Special Foreign Currency Funds, Plant Funds, and Endowments)
(In \$1,000's)

Funds	Nonfederal Funds						
	Fed- eral funds	Total non- federal funds	Unrestricted			Restricted	
			Gen- eral	Aux- iliary activ- ities	Spe- cial pur- pose	Gen- eral	Grants and con- tracts
FUND BALANCES 10/1/79 ..	\$ —	\$ 21,432	\$ 4,965	\$ —	\$ 11,567	\$ 4,864	\$ 36
FUNDS PROVIDED							
Federal Appropriations	107,764	—	—	—	—	—	—
Investment Income	—	5,249	2,470	—	430	2,349	—
Grants and Contracts	—	12,947	—	—	—	—	12,947
Gifts	—	3,226	14	898	57	2,257	—
Sales and Revenue	—	74,252	—	72,203	2,049	—	—
Other	—	1,587	140	—	714	733	—
Total Provided	107,764	97,261	2,624	73,101	3,250	5,339	12,947
Total Available	\$107,764	\$118,693	\$7,589	\$73,101	\$14,817	\$10,203	\$12,983
FUNDS APPLIED							
<i>Science:</i>							
Assistant Secretary	\$ 301	\$ 346	\$ 78	\$ —	\$ 1	\$ 94	\$ 173
Natl. Mus. of Nat. History ..	14,657	2,351	78	—	624	479	1,170
Astrophysical Observatory ..	5,028	13,409	2,217	—	433	123	10,636
Less Overhead Recovery ..	—	(2,196)	(2,196)	—	—	—	—
Tropical Research Inst.	2,257	255	54	—	151	50	—
Radiation Biology Lab.	1,837	208	—	—	89	22	97
Natl. Air & Space Museum ..	5,597	1,615	19	—	1,274	251	71
Chesapeake Bay Center	744	587	137	—	106	112	232
Natl. Zoological Park	8,521	310	38	—	152	24	96
Center for Study of Man	575	33	2	—	—	11	20
Fort Pierce Bureau	—	366	—	—	—	366	—
Total Science	39,517	17,284	427	—	2,830	1,532	12,495
<i>History and Art:</i>							
Assistant Secretary	317	96	77	—	12	1	6
Natl. Mus. of Hist. & Tech. ..	7,177	735	148	—	221	366	—
Natl. Coll. of Fine Arts	3,371	1,241	53	—	953	230	5
Natl. Portrait Gallery	2,442	2,953	31	—	2,781	139	2
Hirshhorn Museum	2,200	209	23	—	49	137	—
Freer Gallery of Art	656	1,427	10	—	367	1,050	—
Archives of American Art ...	521	471	1	—	6	464	—
Cooper-Hewitt Museum	629	1,502	329	—	636	482	55
Museum of African Art	543	366	7	—	190	134	35
Total History and Art.	17,856	9,000	679	—	5,215	3,003	103
<i>Public Service:</i>							
Assistant Secretary	246	299	262	—	36	1	—
Reception Center	16	315	314	—	1	—	—
Anacostia Museum	567	40	22	—	17	1	—
Intl. Exchange Service	323	—	—	—	—	—	—
Performing Arts	331	3,667	21	3,521	96	—	29
Smithsonian Press	819	1,906	—	1,879	2	25	—
Exposition Books	—	4,041	—	4,041	—	—	—
Total Public Service ...	2,302	10,268	619	9,441	152	27	29

TABLE 2. *Source and Application of Operating Funds—continued*
Year Ended September 30, 1980
 (Excludes Special Foreign Currency Funds, Plant Funds, and Endowments)
 (In \$1,000's)

Funds	Fed- eral funds	Total non- federal funds	Nonfederal Funds				
			Unrestricted		Restricted		
			Gen- eral	Aux- iliary actio- nities	Spe- cial pur- pose	Gen- eral	Grants and con- tracts
<i>Museum Programs:</i>							
Assistant Secretary	2,351	249	21	—	95	79	54
Registrar	115	—	—	—	—	—	—
Conserv. Analytical Lab.	654	—	—	—	—	—	—
Libraries	2,730	266	214	—	—	52	—
Exhibits	1,259	5	—	—	5	—	—
Traveling Exhib. Service	161	1,091	—	1,027	30	9	25
Archives	367	43	42	—	1	—	—
National Museum Act	794	—	—	—	—	—	—
Total Museum Programs	8,431	1,654	277	1,027	131	140	79
<i>Special Programs:</i>							
Am. Studies & Folklife Pgm. ..	447	561	405	—	54	—	102
Intl. Environmental Pgm.	408	—	—	—	—	—	—
Academic & Educational Pgm.	478	758	131	—	586	38	3
Collections Mgt./Inventory ...	543	—	—	—	—	—	—
Total Special Programs	1,876	1,319	536	—	640	38	105
Associates Program	—	39,038	282	38,677	23	15	41
Business Management	—	14,616	—	14,616	—	—	—
Administration	7,781	5,296	4,716	359	90	101	30
Less Overhead Recovery	—	(4,379)	(4,379)	—	—	—	—
Facilities Services	29,734	896	803	—	93	—	—
<i>Transfers Out/(In):</i>							
Treasury	267*	—	—	—	—	—	—
Coll. Acq., Schol. St., Outrch.	—	—	2,000	—	(2,000)	—	—
Liability Reserves	—	—	700	—	(700)	—	—
Net Auxiliary Activities	—	—	(8,600)	8,600	—	—	—
Other Designated Purposes ...	—	—	1,226	381	(1,623)	16	—
Plant	—	1,342	1,281	—	61	—	—
Endowment	—	2,788	2,021	—	10	757	—
Total Transfers	267	4,130	(1,372)	8,981	(4,252)	773	—
Total Funds Applied ...	\$107,764	\$99,122	\$ 2,588	\$73,101	\$ 4,922	\$ 5,629	\$12,882
FUND BALANCES 9/30/80 .. \$	—0—	\$19,571	\$ 5,001	\$ —0—	\$ 9,895	\$ 4,574	\$ 101

* Unobligated funds returned to Treasury.

TABLE 3. *Grants and Contracts—Expenditures*
(In \$1,000's)

<i>Federal Agencies</i>	<i>FY 1978</i>	<i>FY 1979</i>	<i>FY 1980</i>
Department of Defense	\$ 968	\$ 1,079	\$ 1,078
Department of Energy	266	304	340
Department of Health and Human Services.	311	288	280
Department of Interior	4	65	197
Environmental Protection Agency	422	31	—
National Aeronautics and Space Administration*	7,858	8,919	9,832
National Endowments for the Arts and Humanities	226	105	118
National Science Foundation**	400	385	627
Other	632	314	410
Total	<u>\$11,087</u>	<u>\$11,490</u>	<u>\$12,882</u>

* Includes \$534,000 (FY 1978), \$583,000 (FY 1979), and \$554,000 (FY 1980) in subcontracts from other organizations receiving prime contract funding from NASA.

** Includes \$112,000 (FY 1980) in NSF subcontracts from the Chesapeake Research Consortium.

Smithsonian units receiving research support included the Chesapeake Bay Center for Environmental Studies, the Radiation Biology Laboratory, the National Zoological Park, and the Office of Folk-life Programs.

NONAPPROPRIATED TRUST FUNDS

The Institution received a wide range of funding from non-federal sources for a variety of purposes. These nonappropriated trust fund revenues totaled \$84,314,000 in the aggregate in fiscal year 1980, an increase of almost \$9 million, or 12 percent over fiscal year 1979. After excluding the auxiliary and bureau activity costs which are necessary to generate a portion of these revenues, the net income available for program purposes was \$18,381,000, a modest increase of 3 percent of net operating funds which, as may be seen in Tables 2, 4, and 5, supported programs throughout the Institution.

Restricted funds may be used only for the purposes specified by the donor or funding source. Total restricted fund revenues for the year were \$5,339,000, consisting of \$2,257,000 from gifts and

TABLE 4. *Restricted Operating Trust Funds**
Fiscal Years 1978-1980
(In \$1,000's)

Item	Invest- ment	Gifts	Misc.	Total rev- enue	Deduc- tions	Trans- fers in (out)	Net in- crease (de- crease)	Fund bal- ance end of year
FY 1978—Total	<u>\$2,022</u>	<u>\$3,478</u>	<u>\$1,038</u>	<u>\$6,538</u>	<u>\$4,367</u>	<u>\$ (1,261)</u>	<u>\$ 910</u>	<u>\$4,428</u>
FY 1979—Total	<u>\$2,075</u>	<u>\$1,775</u>	<u>\$ 727</u>	<u>\$4,577</u>	<u>\$3,983</u>	<u>\$ (345)</u>	<u>\$ 249</u>	<u>\$4,864</u>
FY 1980:								
Museum of								
Natural History	\$ 154	\$ 327	\$ 2	\$ 483	\$ 479	\$ —	\$ 4	\$ 467
Astrophysical								
Observatory	48	38	(6)	80	123	18	(25)	11
Tropical Research								
Institute	17	45	—	62	50	—	12	56
National Air and								
Space Museum	108	5	3	116	251	(667)	(802)	147
Chesapeake Bay Center ..	12	200	—	212	112	—	100	105
Fort Pierce Bureau	664	—	—	664	366	—	298	441
Other Science	157	149	1	307	151	(101)	55	353
Museum of History								
and Technology	48	290	(4)	334	366	—	(32)	332
National Collection								
of Fine Arts	42	63	—	105	230	—	(125)	55
National Portrait Gallery .	34	179	3	216	139	—	77	409
Hirshhorn Museum	50	75	—	125	137	—	(12)	500
Freer Gallery of Art	818	26	487	1,331	1,050	—	281	633
Archives of								
American Art	26	117	249	392	464	—	(72)	268
Cooper-Hewitt Museum..	49	361	7	417	482	—	(65)	256
Museum of African Art ..	11	21	1	33	134	—	(101)	73
Traveling Exhibition								
Service	4	150	—	154	9	—	145	149
All Other	107	211	(10)	308	313	(23)	(28)	319
Total FY 1980	<u>\$2,349</u>	<u>\$2,257</u>	<u>\$ 733</u>	<u>\$5,339</u>	<u>\$4,856</u>	<u>\$ (773)</u>	<u>\$ (290)</u>	<u>\$4,574</u>

* Does not include Federal Agency Grants and Contracts.

grants, \$2,349,000 from investment income, and \$733,000 from other sources including fundraising events of the Archives of American Art and the museum shop of the Freer Gallery of Art. Endowment income, as outlined more fully below, provides major operating support for the Freer and for oceanographic research conducted at the Fort Pierce Bureau, as well as for a wide range of other research and educational projects throughout the Institution. Major gifts were received during the year for exhibitions of the Cooper-Hewitt Museum, the National Museum of History and Technology, the National Portrait Gallery, and the Smithsonian Institution Traveling Exhibition Service; for collections acquisitions at the National Museum of Natural History and the Hirshhorn Museum and Sculpture Garden; for documentation of the Catalogue of American Portraits at the National Portrait Gallery; and for a long-term watershed monitoring project at the Chesapeake Bay Center for Environmental Studies. A transfer of \$650,000 of funds available for the general support of the National Air and Space Museum was made to endowment funds, in order to ensure permanent funding of the Lindbergh Chair of Aerospace History.

Unrestricted Special Purpose funds consist of revenues generated by bureau activities, such as the National Air and Space Museum film theater and the Cooper-Hewitt Museum membership program; interest earned on investment of bureau fund balances; revenue-sharing with bureaus housing centrally managed shop and concession activities; and allocations of funds for the Collections Acquisition, Scholarly Studies, and Educational Outreach programs (\$2 million per year), fellowship awards (\$822,000) and a number of other designated purposes. The Collections Acquisition program this year permitted a joint purchase by the National Portrait Gallery and the Museum of Fine Arts, in Boston, of a pair of Gilbert Stuart portraits of George and Martha Washington; exhibit of these paintings will alternate between the two museums for three-year periods.

Unrestricted General Purpose funds are moneys, primarily generated from auxiliary activities, that are available for general purposes of the Institution. Net general unrestricted funds, after expenses of auxiliary activities, totaled \$11,605,000 (see Table 6), approximately the same level as in fiscal year 1979. Financial activity of the auxiliary activities that accounted for most of this

TABLE 5. *Unrestricted Special Purpose Funds*
Fiscal Years 1978-1980
(In \$1,000's)

Item	Revenue				Deductions				
	Invest- ment	Bu- reau activ- ities	Gifts and other rev- enue	Total rev- enue	Trans- fers in/ (out)	Pro- gram ex- pense	Bu- reau activ- ity ex- pense	Net in- crease (de- crease)	Fund bal- ance end of year
FY 1978	\$175	\$1,327	\$ 506	\$2,008	\$5,450	\$1,284	\$ 862	\$ 5,312	\$ 9,604
FY 1979	\$254	\$2,039	\$ 661	\$2,954	\$3,707	\$3,262	\$1,436	\$ 1,963	\$11,567
FY 1980:									
Museum of									
Natural History	\$ 42	\$ 1	\$ 41	\$ 84	\$ 460	\$ 623	\$ 1	\$ (80)	\$ 266
Astrophysical									
Observatory ...	5	7	92	104	339	431	2	10	330
Tropical Research									
Institute	—	12	4	16	113	127	24	(22)	68
National Air and									
Space Museum.	195	1,177	16	1,388	147	226	1,048	261	2,443
Chesapeake Bay									
Center	—	22	4	26	30	91	15	(50)	14
National									
Zoological Park	74	—	215	289	49	152	—	186	999
Other Science ...	19	—	5	24	115	90	—	49	97
Museum of									
History and									
Technology ...	35	3	32	70	140	219	2	(11)	445
National									
Collection of									
Fine Arts	7	5	43	55	906	947	6	8	117
National									
Portrait Gallery	1	4	2	7	1,025	2,780	1	(1,749)	23
Hirshhorn									
Museum	10	—	9	19	12	49	—	(18)	123
Freer Gallery									
of Art	—	—	1	1	375	367	—	9	28
Cooper-Hewitt									
Museum	2	564	76	642	16	211	425	22	24
Museum of									
African Art ...	—	199	12	211	28	(8)	198	49	50
Liability Reserves	—	—	—	—	700	—	—	700	3,100
Unallocated									
Coll. Acq.,									
Schol. St.,									
and Outrch. ...	—	—	—	—	(1,134)	—	—	(1,134)	502
Fellowships	—	—	—	—	600	533	—	67	407
Other	40	55	219	314	331	523	91	31	859
FY 1980 Total	\$430	\$2,049	\$ 771	\$3,250	\$4,252	\$7,361	\$1,813	\$ (1,672)	\$ 9,895

TABLE 6. *Unrestricted Trust Funds—General and Auxiliary
Activities Fiscal Years 1978–1980*
(In \$1,000's)

<i>Item</i>	<i>FY 1978</i>	<i>FY 1979</i>	<i>FY 1980</i>
FUNDS PROVIDED			
General Income:			
Investments	\$ 1,400	\$ 2,276	\$ 2,470
Gifts	112	163	14
Miscellaneous	48	40	140
Total General Income	1,560	2,479	2,624
Auxiliary Activities Income (net):			
Associates	7,656	6,429	6,113
Business Management			
—Museum Shops	738	287	1,022
—Concessions and Parking	1,567	1,641	1,938
—Other	(169)	(245)	(191)
Performing Arts	253	177	(75)
Smithsonian Press	(199)	292	252
Exposition Books	2,105	1,036	305
Traveling Exhibitions	(112)	(142)	(268)
Photo Services	(185)	(275)	(115)
Total Auxiliary Activities	11,654	9,200	8,981
Total Funds Provided (Net)	13,214	11,679	11,605
EXPENDITURES AND TRANSFERS			
Administrative and Program Expense	7,974	9,231	10,535
Less Administrative Recovery	5,200	5,888	6,575
Net Expense	2,774	3,343	3,960
Less Transfers:			
To Special Purpose			
for Program Purposes	5,700	3,879	4,307
To Plant Funds	869	1,853	1,281
To Endowment Funds	3,021	2,571	2,021
NET ADDITION TO FUND BALANCE ..	850	33	36
ENDING FUND BALANCE	\$ 4,932	\$ 4,965	\$ 5,001

income may be seen in Table 7. Total gross revenues of the activities increased almost \$8 million, or 12 percent. Since operating expenses rose in the same amount, driven by inflationary cost pressures, overall net income after expenses was relatively constant over the two years—roughly \$9 million. Some two-thirds of this auxiliary activity net income came from the Associates programs,

TABLE 7. *Auxiliary Activities Fiscal Years 1978-1980*
(In \$1,000's)

Activity	Sales and other revenue	Gifts	Less cost of sales	Gross revenue	Ex- penses	Net revenue*** (loss)
FY 1978	<u>\$53,420</u>	<u>\$442</u>	<u>\$23,536</u>	<u>\$30,326</u>	<u>\$18,672</u>	<u>\$11,654</u>
FY 1979	<u>\$64,846</u>	<u>\$475</u>	<u>\$31,884</u>	<u>\$33,437</u>	<u>\$24,237</u>	<u>\$ 9,200</u>
FY 1980:						
Associates	\$43,892	\$898	\$30,686	\$14,104	\$ 7,991	\$ 6,113
Business Management:						
—Museum Shops*	14,588	—	7,273	7,315	6,293	1,022
—Concessions/Parking .	2,427	—	—	2,427	489	1,938
—Other**	370	—	—	370	561	(191)
Performing Arts	3,446	—	1,063	2,383	2,458	(75)
Smithsonian Press	2,131	—	1,003	1,128	876	252
Exposition Books	4,346	—	1,492	2,854	2,549	305
Traveling Exhibitions	759	—	—	759	1,027	(268)
Photo Services						
(Administration)	244	—	52	192	307	(115)
Total FY 1980	<u>\$72,203</u>	<u>\$898</u>	<u>\$41,569</u>	<u>\$31,532</u>	<u>\$22,551</u>	<u>\$ 8,981</u>

* Includes Museum Shops, Mail Order.

** Includes Business Management Office, Belmont.

*** Before revenue-sharing transfers to participating Smithsonian bureaus of \$390,000 (FY 1978); \$397,000 (FY 1979); and \$381,000 (FY 1980).

generated largely by the *Smithsonian* magazine which has maintained its large number of enthusiastic readers. Also contributing sizable surpluses for other needs of the Institution were the Museum Shop and Mail Order divisions, owing to unexpectedly strong sales from three mail order catalogues, and the concessions/parking revenues, which benefitted from the popularity of the Institution's museums. Publications of both the Smithsonian Institution Press and Smithsonian Exposition Books sold well during the year, largely through mail order, and the combined surplus of these programs exceeded \$550,000. The unusually high level of interest rates during fiscal year 1980 as well as prior year additions to endowment funds resulted in investment income of \$2,470,000 last year, some \$200,000 higher than the prior year.

These funds enabled the Institution to continue programmatic and administrative support to a large number of bureaus, partic-

ularly the Cooper-Hewitt Museum, the Office of Folklife Programs, the Visitor Information and Associates Reception Center, and the Office of Telecommunications. Transfers to Special Purpose funds were made to continue the collections Acquisition, Scholarly Studies, and Educational Outreach programs (\$2 million), Fluid Research awards which meet small equipment, travel, and research needs of Smithsonian professional staff (\$200,000), and the Smithsonian Fellowship Program, at an increased level of stipend support to pre- and postdoctoral fellows (\$822,000).

As in past years, an addition of some \$2 million to the Institution's Unrestricted Endowment Funds was made at year-end, in order to ensure continuation in the future of projects supported from current revenues. As described below, transfers were also made to support construction projects, primarily the Quadrangle and the Sensory Garden. The Quadrangle also received \$40,000 this year from contributions of the Smithsonian Society of the Associates, which is expected to provide further support to the project in the future.

Other Operating Programs

A separate appropriation of \$4.2 million was received for the Smithsonian Special Foreign Currency Program in blocked foreign currencies accumulated from sales of surplus agricultural commodities under Public Law 83-480. Of this amount, \$3.7 million (the same amount as in fiscal year 1979) was to continue a program of research grants to United States institutions in Egypt, India, Pakistan, and Burma in the disciplines of archeology, systematic and environmental biology, astrophysics and earth sciences, and museum programs. The remaining \$500,000 was to establish a reserve of Indian rupees to ensure continued program support of the American Institute of Indian Studies after the supply of "excess" rupees is depleted. Obligation of these funds is shown in Table 8 by country and research discipline.

In fiscal year 1980 funds for support of the Smithsonian Science Information Exchange were appropriated to the Department of Commerce, rather than the Smithsonian as in prior years, and are therefore not reflected in this report.

TABLE 8. *Special Foreign Currency Program*
Fiscal Year 1980—Obligations

Country	Archae- ology	System- atic and environ- mental biology	Astro- physics and earth sciences	Mu- seum pro- grams	Grant admin- istra- tion	Total
Burma	\$ 12,200	\$ 15,663	\$ —	\$ —	\$ —	\$ 27,863
Egypt	1,062,986	35,987	48,769	22,776	—	1,170,518
India	2,497,558	218,146	40,196	234,313	41,339	3,031,552
Pakistan ...	70,562	148,284	—	—	—	218,846
Total ..	<u>\$3,643,306</u>	<u>\$418,080</u>	<u>\$88,965</u>	<u>\$257,089</u>	<u>\$41,339</u>	<u>\$4,448,779*</u>

* An additional amount of \$243,077 was obligated by the National Science Foundation, Science Information Program, for translations and printing of scientific publications requested by the Smithsonian Institution.

Construction

In fiscal year 1980 an amount of \$32.1 million was appropriated to the Institution for construction projects of high priority to the Institution. The major portion of this funding, \$20.6 million, was for construction of the Museum Support Center in Suitland, Maryland. A further \$6.3 million was provided for development and repair of facilities of the National Zoological Park; major projects included design of the Aquatic Habitats Area and continuation of Central Area construction at Rock Creek Park, as well as design of a small mammal and bird breeding complex and construction of a centralized hoofed stock management complex at Front Royal. Finally, an amount of approximately \$5.3 million, more than twice the amount appropriated in fiscal year 1979, was designated for repairs and renovations at all other Smithsonian facilities. Of this amount, \$3.7 million was for phased programs such as façade and roof repairs at the National Museum of History and Technology building, the Renwick Gallery, and the Arts and Industries building; the installation of fire detection and suppression systems; improvement of access for the disabled; the correction of hazardous conditions; repair of heating, ventilating, and air conditioning systems; and site development at the Mt. Hopkins, Arizona, observa-

TABLE 9. *Construction and Plant Funds Fiscal Years 1978-1980*
(In \$1,000's)

<i>Sources</i>	<i>FY 1978</i>	<i>FY 1979</i>	<i>FY 1980</i>
FUNDS PROVIDED			
Federal Appropriations:			
National Zoological Park	\$2,500	\$3,900	\$ 6,250
Museum Support Center	325	575	20,600*
Restoration & Renovation of Buildings ..	<u>2,425</u>	<u>2,100</u>	<u>5,250</u>
Total Federal Appropriations	<u>5,250</u>	<u>6,575</u>	<u>32,100</u>
Nonappropriated Trust Funds:			
Income—Gift and Other			
Cooper-Hewitt Museum	60	—	104
Quadrangle	<u>—</u>	<u>5</u>	<u>1,051</u>
Total Income	<u>60</u>	<u>5</u>	<u>1,155</u>
Transfers from Current Funds:			
Barney House	70	—	—
Chesapeake Bay Center	344	411	39
Cooper-Hewitt Museum	(10)	—	—
Museum of African Art	—	4	22
National Zoological Park	110	—	—
Renwick Gates (Victorian Garden)	225	—	—
Sensory and East Gardens	100	10	241
Quadrangle	30	1,385	1,404
Tropical Research Institute	<u>—</u>	<u>47</u>	<u>—</u>
Total Transfers	<u>869</u>	<u>1,857</u>	<u>1,342</u>
Total Funds Provided	<u>\$6,179</u>	<u>\$8,437</u>	<u>\$34,597</u>

* Obligation authority of \$19 million deferred until FY 1981 on instructions from Office of Management and Budget.

tory. The balance of these funds were applied to numerous other facility improvement projects required to preserve and to maintain the Institution's buildings in safe and working order.

A total of \$1,342,000 in nonappropriated funds was transferred to facilities development and land acquisition in fiscal year 1980, and a further \$1,155,000 of gifts and other income was received for construction projects. A gift of \$1 million for the Quadrangle was received in March 1980 from the government of Japan in fulfillment of its earlier pledge toward this facility. In addition, the Institution set aside a further \$1 million of unrestricted trust funds for the Quadrangle, of which \$500,000 was designated for use in fiscal year 1980 to continue planning and engineering

studies for congressional review prior to the appropriation of federal funds for this project. Additional funds were transferred for development of a Sensory Garden to be located in the area to the east of the Arts and Industries building and for minor payments related to land acquisition at the Chesapeake Bay Center and the Museum of African Art.

Endowment and Similar Funds

The Smithsonian Endowment Funds, as shown on Table 10, totaled \$78,390,000 on September 30, 1980, as compared to \$66,619,000 on September 30, 1979. Of these funds, \$77,330,000 is invested

TABLE 10. *Endowment and Similar Funds September 30, 1980*

	<i>Book value</i>	<i>Market value</i>
ASSETS		
Pooled Consolidated Endowment Funds:		
Cash and Equivalents	\$ 476,218	\$ 476,218
Bonds	12,850,192	13,821,370
Convertible Bonds	621,000	689,000
Stocks	49,423,674	62,343,318
Total Pooled Funds	63,371,084	77,329,906
Nonpooled Endowment Funds:		
Notes Receivable	38,138	38,138
Loan to U.S. Treasury in Perpetuity	1,000,000	1,000,000
Bonds	9,769	8,800
Common Stocks	3,321	13,095
Total Nonpooled Funds	1,051,228	1,060,033
Total Endowment and Similar Fund Balances ..	<u>\$64,422,312</u>	<u>\$78,389,939</u>
FUND BALANCES		
Unrestricted Purpose: True Endowment	\$ 2,472,281	\$ 3,519,606
Quasi Endowment	22,439,628	25,763,348
Total Unrestricted Purpose	24,911,909	29,282,954
Restricted Purpose: True Endowment	35,918,089	44,992,715
Quasi Endowment	3,592,314	4,114,270
Total Restricted Purpose	39,510,403	49,106,985
Total Endowment and Similar Fund Balances ..	<u>\$64,422,312</u>	<u>\$78,389,939</u>

in the Pooled Consolidated Endowment Fund, \$1 million is on permanent deposit in the United States Treasury, and the remaining \$60,000 is held in miscellaneous securities. The majority of the Institution's endowment funds (\$49,107,000, or 63 percent) is restricted, with income available for use only as specified by the original donor; the remaining \$29,283,000, or 37 percent, is unrestricted and supports general programs of the Institution. A portion of these latter funds, however, has been designated by the Institution for specific purposes, such as the Lindbergh Chair of Aerospace History Endowment, which will enable term appointments of leading scholars at the National Air and Space Museum. The unrestricted endowments have grown in recent years owing largely to transfers of moneys from current funds, as approved by the Board of Regents; \$2,660,000 was so transferred in fiscal year 1980, and \$2,650,000 in fiscal year 1979. During the year, a thorough review of all endowment funds was conducted to ensure proper classification and documentation of their sources and restrictions, resulting in the reclassification of several funds. A full listing of all endowment funds may be seen in Table 13.

The Pooled Consolidated Endowment Fund is invested under the management of outside professional advisory firms under close supervision of the Investment Policy Committee and the Treasurer, subject to policy guidelines approved by the Smithsonian's Board of Regents. As of the end of this year these firms, with the portion of the Fund under their management, were Batterymarch Financial Management (30 percent), Fiduciary Trust Company of New York (53 percent), and Torray Clark & Company (17 percent). During fiscal year 1980, the total rate of return (market appreciation as well as interest and dividend yield) of the Pooled Consolidated Endowment Fund, as calculated by an independent investment measurement service, was +18.8 percent, as compared to +12.9 percent for the Dow Jones Industrial Average, and +21.2 percent for the Standard & Poor's 500 Average, both calculated on the same basis. Of the \$11,774,000 increase in market value of the Fund during the year, \$7,829,000 was due to market appreciation, \$2,846,000 to gifts and transfers, and 1,099,000 to dividend and interest yield reinvested in principal (see Table 12).

Under the Total Return Income policy followed by the Institution, a prudent portion of investment return (interest, dividends,

TABLE 11. *Market Values of Pooled Consolidated Endowment Funds*
(In \$1,000's)

<i>Fund</i>	<i>9/30/76</i>	<i>9/30/77</i>	<i>9/30/78</i>	<i>9/30/79</i>	<i>9/30/80</i>
Unrestricted	\$ 8,336	\$12,525	\$18,114	\$22,614	\$28,384
Freer	16,035	15,410	16,807	18,303	20,771
Endowment No. 3	12,701	12,343	13,462	15,022	17,047
Restricted	6,561	6,601	8,647	9,617	11,128
Total	<u>\$43,633</u>	<u>\$46,879</u>	<u>\$57,030</u>	<u>\$65,556</u>	<u>\$77,330</u>

TABLE 12. *Changes in Pooled Consolidated Endowment Funds
for Fiscal Year 1980*
(In \$1,000's)

<i>Fund</i>	<i>Market value 9/30/79</i>	<i>Gifts and trans- fers</i>	<i>Inter- est and divi- dends*</i>	<i>Income paid out</i>	<i>Sub- total</i>	<i>Market value appre- ciation</i>	<i>Market value 9/30/80</i>
Unrestricted	\$22,614	\$2,660	\$1,334	\$ 951	\$25,657	\$2,727	\$28,384
Freer	18,303	—	1,068	763	18,608	2,163	20,771
Endowment No. 3 ...	15,022	—	876	626	15,272	1,775	17,047
Restricted	9,617	186	567	406	9,964	1,164	11,128
Total	<u>\$65,556</u>	<u>\$2,846</u>	<u>\$3,845</u>	<u>\$2,746</u>	<u>\$69,501</u>	<u>\$7,829</u>	<u>\$77,330</u>

* Income earned less managers' fees.

and capital appreciation) is available for expenditure each year as income, and the remainder is retained as principal. This total return income payout is determined each year based on a review of anticipated dividend and interest yields, support needs of the Institution's bureaus, inflationary factors, and the five-year running average of market values, adjusted for additions or withdrawals of capital. The amount of such income paid in fiscal year 1980 to endowments in the Pooled Consolidated Endowment Fund represented an increase of 5.5 percent over the fiscal year 1979 rate of income, and a further increase of 10 percent has been approved for fiscal year 1981. Even after this payout, \$1,099,000 of excess interest and dividend yield was available for reinvestment into principal.

TABLE 13. Endowment Funds September 30, 1980

Fund	Principal		Income	
	Book value	Market value	Net income	Unexpended balance
UNRESTRICTED PURPOSE—TRUE:				
Avery Fund*	\$ 77,212	\$ 115,453	\$ 4,568	\$ —0—
Higbee, Harry Memorial*	21,771	33,644	1,263	—0—
Hodgkins Fund*	178,777	195,737	9,890	—0—
Morrow, Dwight W.	123,749	198,873	7,307	—0—
Mussinan, Alfred	41,786	58,159	2,137	—0—
Olmsted, Helen A.	1,332	2,030	74	—0—
Poore, Lucy T. and George W.*	287,043	450,614	17,176	—0—
Porter, Henry Kirke, Memorial	458,300	734,365	26,982	—0—
Sanford, George H.*	2,525	3,380	150	—0—
Smithson, James	541,380	541,380	32,483	—0—
Walcott, Charles D. and Mary Vaux, Research (Designated)	738,406	1,185,971	43,686	28,874
Subtotal	2,472,281	3,519,606	145,716	28,874
UNRESTRICTED PURPOSE—QUASI:				
Forrest, Robert Lee	2,244,621	2,213,074	81,312	—0—
General Endowment*	18,307,656	21,467,383	724,171	—0—
Goddard, Robert H.	17,756	17,526	644	—0—
Habel, Dr. S.*	500	500	30	—0—
Hart, Gustavus E.	1,013	1,311	48	—0—
Henry, Caroline	2,515	3,235	119	—0—
Henry, Joseph and Harriet A.	101,647	129,380	4,753	—0—
Heys, Maude C.	213,413	215,344	7,912	—0—
Hinton, Carrie Susan	53,770	62,918	2,312	—0—
Lambert, Paula C.	95,604	115,572	4,246	—0—
Medinus, Grace L.	2,106	2,142	79	—0—
Rhees, William Jones*	1,572	1,844	81	—0—
Safford, Clara Louise	96,042	100,586	3,696	—0—
Smithsonian Bequest Fund	10,077	10,883	264	—0—
Taggart, Ganson	786	1,225	45	—0—
Abbott, William L. (Designated)	246,935	313,690	11,526	—0—
Barstow, Frederic D. (Designated)	2,070	2,622	96	2,893
Lindbergh Chair of Aerospace History (Designated)	1,025,977	1,086,447	17,522	30,141
Lindbergh, Charles A. (Designated)	6,653	8,318	771	2,838
Lyon Jr., Marcus Ward (Designated)	8,915	9,348	343	343
Subtotal	22,439,628	25,763,348	859,970	36,215
Total Unrestricted Purpose	\$24,911,909	\$29,282,954	\$1,005,686	\$ 65,089
RESTRICTED PURPOSE—TRUE:				
Arthur, James	\$ 64,003	\$ 102,746	\$ 3,775	\$ 4,889
Baird, Spencer Fullerton	58,710	91,844	3,374	3,727
Barney, Alice Pike, Memorial	45,900	73,628	2,705	12,896
Batchelor, Emma E.	68,534	76,161	2,798	27,435
Beauregard, Catherine, Memorial	81,147	102,889	3,780	12,941
Brown, Roland W.	53,914	70,614	2,594	12,159
Canfield, Frederick A.	60,982	113,203	4,159	812
Casey, Thomas Lincoln	25,974	32,986	1,212	2,832
Chamberlain, Frances Lea	45,067	72,294	2,656	9,378
Cooper Fund for Paleobiology	21,878	25,651	867	6
Division of Mammals Curators Fund	3,584	4,330	159	2,946
Drake Foundation*	333,084	386,714	14,130	34,123
Dykes, Charles, Bequest	89,207	113,236	4,160	23,030
Eickemeyer, Florence Brevoort	17,396	27,894	1,025	9,287
Endowment No. 3	13,716,662	17,046,912	630,170	440,529
Freer, Charles L.	16,422,587	20,771,334	763,235	400,234
Guggenheim, Daniel and Florence	248,702	265,110	9,740	—0—
Hamilton, James*	3,144	3,612	191	191
Henderson, Edward P., Meteorite Fund	644	914	34	213
Hewitt, Eleanor G., Repair Fund	14,529	16,668	612	—0—
Hewitt, Sarah Cooper	86,004	98,384	3,615	—0—
Hitchcock, Albert S.	2,524	4,116	152	852

TABLE 13. *Endowment Funds September 30, 1980—Continued*

Fund	Principal		Income	
	Book value	Market value	Net income	Unexpended balance
Hodgkins Fund*	100,000	100,000	6,000	7,025
Hrdlicka, Ales and Marie	97,654	127,915	4,700	3,721
Hughes, Bruce	30,631	49,197	1,808	13,427
Kellogg, Remington, Memorial	51,459	52,845	1,906	5,330
Kramar, Nada	5,570	6,725	247	1,138
Lindsey, Jessie H.*	11,177	10,496	792	3,354
Maxwell, Mary E.	31,389	50,407	1,852	11,624
Milliken, H. Oothout, Memorial	429	490	18	—0—
Mineral Endowment	193,887	226,377	8,317	2,463
Mitchell, William A.	26,344	30,968	1,138	2,372
Natural History and Conservation	27,997	33,244	1,142	—0—
Nelson, Edward William	38,151	57,081	2,097	—0—
Petrocelli, Joseph, Memorial	11,862	19,120	703	13,151
Reid, Addison T.*	47,854	57,779	2,379	8,402
Roebbing Fund	193,325	308,349	11,330	142
Rollins, Miriam and William	360,965	504,076	18,312	12,231
Shryock Endowment for Docents	1,341	1,461	35	35
Sprague Fund	2,582,750	3,014,222	109,515	25,496
Springer, Frank	28,976	46,013	1,691	22,862
Stern, Harold P., Memorial	275,560	323,324	11,320	12,509
Stevenson, John A., Mycological Library	9,990	12,571	462	509
Walcott, Charles D. and Mary Vaux, Research	232,367	313,186	12,166	8,644
Walcott Research Fund, Botanical Publications*	92,715	143,210	5,262	8,380
Zerbee, Frances Brinckle	1,520	2,419	90	2,521
Subtotal	35,918,089	44,992,715	1,658,425	1,163,816
RESTRICTED PURPOSE—QUASI:				
Armstrong, Edwin James	5,512	6,249	225	—0—
Au Panier Fleuri	42,956	42,576	1,564	—0—
Bacon, Virginia Purdy	187,993	213,691	7,851	29,823
Becker, George F.	323,051	369,860	13,589	—0—
Desautels, Paul E.	18,769	24,361	875	—0—
Gaver, Gordon	2,484	3,008	110	622
Hachenberg, George P. and Caroline	8,369	11,243	413	413
Hanson, Martin Gustav and Caroline R.	18,421	23,382	859	3,599
Hillyer, Virgil	13,620	17,298	636	4,947
Johnson, E. R. Fenimore	16,615	17,313	636	10,332
Loeb, Morris	181,031	231,901	8,520	14,684
Long, Annette E. and Edith C.	869	1,432	53	258
Myer, Catherine Walden	41,866	53,148	1,953	5,524
Noyes, Frank B.	2,015	2,679	98	2,214
Noyes, Pauline Riggs	20,222	20,063	737	—0—
Pell, Cornelia Livingston	15,380	19,621	721	47
Ramsey, Adm. and Mrs. Dewitt Clinton*	608,239	645,001	24,259	3,788
Rathbun, Richard, Memorial	22,061	28,113	1,033	15,290
Roebbing Solar Research	51,052	60,444	2,221	2,776
Ruef, Bertha M.	64,797	67,467	2,479	4,283
Schultz, Leonard P.	16,076	20,337	747	11,323
Seidell, Atherton	1,284,402	1,461,248	53,689	114,126
Smithsonian Agency Account	358,455	408,450	14,064	—0—
Strong, Julia D.	20,737	26,417	970	1,344
Witherspoon, Thomas A., Memorial	267,322	338,968	12,454	12,454
Subtotal	3,592,314	4,114,270	150,756	237,847
Total Restricted Purpose	\$39,510,403	\$49,106,985	\$1,809,181	\$1,401,663
TOTAL ENDOWMENT FUNDS	\$64,422,312	\$78,389,939	\$2,814,867**	\$1,466,752

* Invested all or in part in U.S. Treasury or other nonpooled investments.

** Total Return Income payout; does not include \$127,000 of interest income for investment of unexpended income balances.

A listing of the securities held in the Pooled Consolidated Endowment Fund as of September 30, 1980, may be obtained upon request from the Treasurer of the Institution.

Related Organizations

The Smithsonian Science Information Exchange, Inc. (ssie) is devoted to facilitating the planning, management, and coordination of the nation's research through the collection, processing, and dissemination of information about ongoing research. Incorporated by the Smithsonian in 1971 as a separate nonprofit entity, ssie was funded in past years through an annual contract from the Smithsonian, equal to the appropriation provided the Smithsonian for this purpose. As noted in last year's report, the fiscal 1980 appropriation for ssie was made to the Department of Commerce in anticipation of the integration of the functions of ssie into the National Technical Information Service (NTIS). Pending consolidation of these activities and termination of the corporation, the Smithsonian has continued to provide ssie with administrative and fiscal services on a contract basis.

Reading is Fundamental, Inc. (rif), associated with the Institution since 1968, is an independent, separately incorporated entity dedicated to the improvement of reading abilities in children. Primary support is derived from private contributions and a federal contract with the Department of Education to operate the federal Inexpensive Book Distribution Program. Administrative services are provided by the Institution on a contract basis.

The Woodrow Wilson International Center for Scholars, the National Gallery of Art, and the John F. Kennedy Center for the Performing Arts were established by Congress within the Institution but are administered by separate boards of trustees. Independent financial reports are prepared by each of these organizations. Office space and fiscal and other administrative and support services are provided the Woodrow Wilson International Center for Scholars on a reimbursement basis.

The Friends of the National Zoo (fonz) is an independent, nonprofit corporation working closely with the National Zoological

Park. It operates under contract a number of beneficial concessions for the National Zoo. fonz provided concession and rental fees to the Zoo amounting to more than \$147,000 during calendar year 1979 (fonz's fiscal year). In addition, fonz contributed other important financial and volunteer support for zoo programs. Financial affairs of this organization are disclosed separately elsewhere in *Smithsonian Year 1980*.

Accounting and Auditing

The nonappropriated trust funds of the Institution are audited annually by an independent public accounting firm; the report of Coopers & Lybrand is contained in the following pages. Additional reviews are conducted annually on a number of Smithsonian activities by the internal audit staff. Additionally, the Defense Contract Audit Agency conducts an annual audit of grants and contracts received from federal agencies, as well as general and administrative costs.

The Audit and Review Committee of the Regents held several meetings during the year pursuant to their responsibility, under the bylaws of the Institution, for reviewing the Smithsonian's accounting systems and internal financial controls; for facilitating communication between the Board of Regents and auditors from the internal audit staff, the independent accounting firm, and the General Accounting Office; and for reviewing operations of the Institution for compliance with approved programs and policies.

COOPERS & LYBRAND

CERTIFIED PUBLIC ACCOUNTANTS

IN PRINCIPAL AREAS
OF THE WORLD

To the Board of Regents
Smithsonian Institution

We have examined the balance sheet of the Trust Funds of Smithsonian Institution as of September 30, 1980 and the related statement of financial activity for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We previously examined and reported upon the statements of the Trust Funds of Smithsonian Institution for the year ended September 30, 1979, totals of which are included in the accompanying financial statements for comparative purposes only.

The statements of the Trust Funds of Smithsonian Institution do not include the accounts of the National Gallery of Art, the John F. Kennedy Center for the Performing Arts, or other departments, bureaus and programs administered by the Smithsonian Institution under federal appropriations as detailed in Note 2 to the financial statements.

In our opinion, the financial statements for the year ended September 30, 1980, referred to above, present fairly the financial position of the Trust Funds of Smithsonian Institution as of September 30, 1980, and the results of operations and changes in fund balances for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

COOPERS & LYBRAND

1800 M Street, N.W.
Washington, D.C. 20036
November 28, 1980

SMITHSONIAN INSTITUTION—TRUST FUNDS
Balance Sheet

September 30, 1980
(with comparative totals for September 30, 1979)

	Current funds	Endowment and similar funds	Plant funds	Total, all funds	Totals, 1979
ASSETS:					
Cash	\$ 39,958	\$ 41,164	\$ —	\$ 81,122	\$ 1,129,402
Investments (Notes 3 and 5)	21,785,307	63,907,957	—	85,693,264	79,127,984
Receivables (Note 4)	11,051,484	38,138	—	11,089,622	9,873,408
Interfund receivables	—	435,053	3,837,608	4,272,661	4,308,574
Merchandise inventory (Note 1)	6,244,380	—	—	6,244,380	4,505,523
Prepaid and deferred expense (Note 1)	7,294,999	—	—	7,294,999	6,414,963
Property and equipment (Notes 1 and 6)	1,469,019	—	12,543,726	14,012,745	13,203,767
	<u>\$47,885,147</u>	<u>\$64,422,312</u>	<u>\$16,381,334</u>	<u>\$128,688,793</u>	<u>\$118,563,621</u>
LIABILITIES:					
Accounts payable and accrued expenses	\$ 5,759,026	\$ —	\$ 209,846	\$ 5,968,872	\$ 5,656,838
Deposits held in custody for other organizations (Note 2) ..	1,218,910	—	—	1,218,910	1,745,609
Interfund payables	4,272,661	—	—	4,272,661	4,308,574
Deferred revenue (Note 1)	17,063,378	—	—	17,063,378	13,247,924
Total liabilities	<u>28,313,975</u>	<u>—</u>	<u>209,846</u>	<u>28,523,821</u>	<u>24,958,945</u>
FUND BALANCES (Note 1):					
Current:					
Unrestricted general purpose	5,000,736	—	—	5,000,736	4,964,511
Special purpose	9,895,106	—	—	9,895,106	11,567,125
Restricted	4,675,330	—	—	4,675,330	4,900,178
Endowment and similar funds (Note 5)	—	64,422,312	—	64,422,312	58,479,808
Plant funds (Note 6)	—	—	16,171,488	16,171,488	13,693,054
Total fund balances	<u>19,571,172</u>	<u>64,422,312</u>	<u>16,171,488</u>	<u>100,164,972</u>	<u>93,604,676</u>
	<u>\$47,885,147</u>	<u>\$64,422,312</u>	<u>\$16,381,334</u>	<u>\$128,688,793</u>	<u>\$118,563,621</u>

The accompanying notes are an integral part of the financial statements.

SMITHSONIAN INSTITUTION—TRUST FUNDS

Statement of Financial Activity

Year ended September 30, 1980

(with comparative totals for the year ended September 30, 1979)

	Current funds							Total, all funds	Totals, 1979	
	Total current funds	Unrestricted					Endowment and similar funds			
		Total unrestricted funds	General purpose	Auxiliary activities	Special purpose	Restricted				
REVENUE AND OTHER ADDITIONS:										
Auxiliary activities revenue	\$74,251,010	\$74,251,010	\$ —	\$72,202,047	\$ 2,048,963	\$ —	\$ —	\$ —	\$ 74,251,010	\$66,884,616
Federal grants and contracts	12,946,943	—	—	—	—	12,946,943	—	—	12,946,943	11,411,790
Investment income (net of \$283,955 for management and custodian fees)	6,348,438	3,282,808	2,822,779	—	460,029	3,065,630	—	58,964	6,407,402	5,598,435
Net gain on sale of securities	252	252	252	—	—	—	1,998,957	—	1,999,209	506,101
Gifts, bequests and foundation grants	3,226,682	969,453	14,005	898,835	56,613	2,257,229	55,907	1,096,507	4,379,096	2,554,149
Additions to plant fund	—	—	—	—	—	—	—	665,896	665,896	395,971
Rentals, fees, commissions and other	2,225,672	1,492,995	778,958	—	714,037	732,677	—	—	2,225,672	1,983,617
Total revenue and other additions	98,998,997	79,956,518	3,615,994	73,100,882	3,279,642	19,002,479	2,054,864	1,821,367	102,875,228	89,334,679
EXPENDITURES AND OTHER DEDUCTIONS:										
Research and educational expenditures	24,472,580	9,709,811	2,457,778	—	7,252,033	14,762,769	—	—	24,472,580	18,375,482
Administrative expenditures	8,077,438	5,103,286	2,140,313	2,593,470	369,503	2,974,152	—	—	8,077,438	6,842,542
Auxiliary activities expenditures	63,079,852	63,079,852	—	61,526,783	1,553,069	—	—	—	63,079,852	55,015,797
Expenditures for acquisition of plant	—	—	—	—	—	—	—	623,691	623,691	348,921
Retirement of indebtedness	—	—	—	—	—	—	—	42,205	42,205	47,049
Interest on indebtedness	—	—	—	—	—	—	—	19,166	19,166	9,021
Excess of revenue and other additions over (under) expenditures and other deductions ..	95,629,870	77,892,949	4,598,091	64,120,253	9,174,605	17,736,921	—	685,062	96,314,932	80,638,812
TRANSFERS AMONG FUNDS—										
ADDITIONS (DEDUCTIONS):										
Mandatory principal and interest on notes	(61,371)	(61,371)	(38,902)	—	(22,379)	—	—	61,371	—	—
Portion of investment yield appropriated (Note 5) ..	(1,099,438)	(383,021)	(353,033)	—	(29,988)	(716,417)	1,099,438	—	—	—
Purchase of property and equipment for plant fund	(530,698)	(530,698)	(530,698)	—	—	—	—	530,698	—	—
Future plant acquisitions	(710,060)	(710,060)	(671,802)	—	(38,258)	—	—	710,060	—	—
Income added to endowment principal	(107,474)	—	—	—	—	(107,474)	107,474	—	—	—
Appropriated as quasi endowment	(2,680,728)	(2,030,728)	(2,021,053)	—	(9,675)	(650,000)	2,680,728	—	—	—
For designated purposes	(40,000)	(23,485)	(3,966,025)	(380,704)	4,323,244	(16,515)	—	40,000	—	—
Net increase in auxiliary activities	—	—	8,599,925	(8,599,925)	—	—	—	—	—	—
Total transfers among funds	(5,229,769)	(3,739,363)	1,018,322	(8,980,629)	4,222,944	(1,490,406)	3,887,640	1,342,129	—	—
Net increase (decrease) for the year	(1,860,642)	(1,635,704)	36,225	—	(1,672,019)	(224,848)	5,942,504	2,478,434	6,560,296	8,695,867
Fund balances at beginning of year	21,431,814	16,531,636	4,964,511	—	11,567,125	4,900,178	58,479,808	13,693,054	93,604,676	84,908,809
Fund balances at end of year	\$19,571,172	\$14,895,842	\$ 5,000,736	\$ —	\$ 9,895,106	\$ 4,675,330	\$64,422,312	\$16,171,488	\$100,164,972	\$93,604,676

The accompanying notes are an integral part of the financial statements.

SMITHSONIAN INSTITUTION—TRUST FUNDS
Notes to Financial Statements

1. *Summary of significant accounting policies*

Basis of presentation. The financial statements of Smithsonian Institution—Trust Funds (Institution) have been prepared on the accrual basis.

Fund accounting. To ensure observance of limitations and restrictions placed on the use of resources available to the Institution, the accounts of the Institution are maintained in accordance with the principles of fund accounting. This is the procedure by which resources for various purposes are classified for accounting and reporting purposes into funds established according to their nature and purposes. Separate accounts are maintained for each fund; however, in the accompanying financial statements, funds that have similar characteristics have been combined into fund groups. Accordingly, all financial transactions have been recorded and reported by fund group.

The assets, liabilities and fund balances of the Institution are reported in self-balancing fund groups as follows:

Current funds, which include unrestricted and restricted resources, represent the portion of expendable funds that is available for support of Institution operations. Separate subfund groups of current unrestricted funds have been reflected in the financial statements for auxiliary activities (representing primarily the revenue and expenditures of the Smithsonian Associates Program, including the *Smithsonian Magazine*, and museum shop sales) and for special purposes (representing internally segregated funds for certain designated purposes). Amounts restricted by the donor for specific purposes are also segregated from other current funds.

Endowment and similar funds include funds that are subject to restrictions of gift instruments requiring in perpetuity that the principal be invested and the income only be used. Also classified as endowment and similar funds are gifts which will allow the expenditure of principal but only under certain specified conditions and quasi-endowment funds. Quasi-endowment funds are funds established by the governing board for the same purposes as endowment funds; however, any portion of such funds may be expended. Restricted quasi-endowment funds represent gifts for restricted purposes where there is no stipulation that the principal be maintained in perpetuity or for a period of time, but the governing board has elected to invest the principal and expend only the income for the purpose stipulated by the donor.

Plant funds represent resources restricted for future plant acquisitions and funds expended for plant.

All gains and losses arising from the sale, collection or other disposition of investments are accounted for in the fund in which the related assets are recorded. Income from investments is accounted for in a similar manner, except for income derived from investments of endowment and similar funds, which is accounted for in the fund to which it is restricted or, if unrestricted, as revenue in unrestricted current funds.

Inventories. Inventories are carried at the lower of average cost, computed on a first-in, first-out method, or net realizable value.

Deferred revenue and expense. Revenue from subscriptions to *Smithsonian Magazine* is recorded as income over the period of the related subscription, which is one year. Costs related to obtaining subscriptions to *Smithsonian Magazine* are charged to income over the period of the subscription.

The Institution recognizes revenue and charges expenses of other auxiliary activities during the period in which the activity is conducted.

Works of art, living or other specimens. In accordance with the practice generally followed by museums, works of art and living or other specimens are not reflected in the accompanying financial statements.

Property and equipment. Capitalized improvements and equipment purchased with Trust Funds and utilized in income-producing activities are capitalized in the current unrestricted fund at cost and are depreciated on a straight-line basis over their estimated useful lives of three to ten years.

Real estate (land and buildings) are recorded in the plant fund at cost, to the extent that restricted or unrestricted funds were expended therefor, or appraised value at date of gift, except for gifts of certain islands in Chesapeake Bay and the Carnegie Mansion, which have been recorded at nominal values. In accordance with the practice of many museums, depreciation on buildings is not recorded.

All other land, buildings, fixtures and equipment which were principally acquired with federal funds are not reflected in the accompanying financial statements.

Government contracts. The Institution has a number of contracts with the U.S. Government, which primarily provide for cost reimbursement to the Institution. Contract revenue is recognized when billable or received.

Contributed services. A substantial number of unpaid volunteers have made significant contributions of their time in the furtherance of the Institution's programs. The value of this contributed time is not reflected in these statements since it is not susceptible to objective measurement or valuation.

2. Related activities

The Trust Funds reflect the receipt and expenditure of funds obtained from private sources, from federal grants and contracts, and from certain business activities related to the operations of the Institution.

Federal appropriations, which are not reflected in the accompanying financial statements, provide major support for the operations and administration of the educational and research programs of the Institution's many museums, art galleries and other bureaus, as well as for the maintenance and construction of related buildings and facilities. In addition, land, buildings and other assets acquired with federal funds are not reflected in the accompanying financial statements.

The following federal appropriations were received by the Institution for the fiscal years ended September 30, 1980 and 1979:

	1980	1979
Operating funds	\$107,764,000	\$100,265,000
Special foreign currency program	4,200,000	3,700,000
Construction funds	32,100,000	6,575,000
	<u>\$144,064,000</u>	<u>\$110,540,000</u>

The Institution provides fiscal and administrative services to several separately incorporated organizations in which certain officials of the Institution serve on the governing boards. The amounts paid to the Institution by these organizations for the aforementioned services, together with rent for Institution facilities occupied, etc., totaled approximately \$370,000 for the year ended September 30, 1980. The following summarizes the approximate expenditures of these organizations for the fiscal years ended September 30, 1980 and 1979, respectively, as reflected in their individual financial statements and which are not included in the accompanying financial statements of the Institution:

	1980	1979
Smithsonian Science Information Exchange	\$3,310,000	\$3,293,000
Reading Is Fundamental, Inc.	\$7,721,000	\$4,042,000
Woodrow Wilson International Center for Scholars—Trust Funds	\$2,583,000	\$2,306,000

The Institution is continuing to work with the U.S. Department of Commerce to effect a transfer of the Smithsonian Science Information Exchange operations to the U.S. Department of Commerce. Pending completion of this transfer, the Institution will continue to provide fiscal and administrative services:

3. Investments

Investments are recorded at cost, if purchased, or at fair market value at date of acquisition, if acquired by gift. At September 30, 1980, investments are composed of the following:

	Carrying value	Market value
Current funds:		
Certificates of deposit	\$ 4,219,219	\$ 4,219,219
Commercial paper	4,551,390	4,500,000
Overnight money market account	2,175,000	2,175,000
U.S. Government and quasi-government obligations	10,614,071	10,304,780
Common stock	169,280	97,346
Preferred stock	56,347	39,948
	<u>21,785,307</u>	<u>21,336,293</u>
Endowment and similar funds:		
Loan to U.S. Treasury	\$ 1,000,000	\$ 1,000,000
Commercial paper	850,000	850,000
U.S. Government and quasi-government obligations	9,508,399	9,385,439
Corporate bonds	3,112,793	4,274,931
Common stock	48,715,240	61,606,964
Preferred stock	721,525	758,250
	<u>63,907,957</u>	<u>77,875,584</u>
	<u>\$85,693,264</u>	<u>\$99,211,877</u>

Substantially all of the investments of the endowment and similar funds are pooled on a market value basis (consolidated fund) with each individual fund subscribing to or disposing of units on the basis of the value per unit at market value at the beginning of the month within which the transaction takes place. Of the total units, each having a market value of \$136.08, 350,359 units were owned by endowment and 217,896 units were owned by quasi endowment at September 30, 1980.

The following tabulation summarizes changes in relationships between cost and market values of the pooled investments:

	Market	Cost	Net gains	Market value per unit
End of year	\$77,329,906	\$63,371,084	\$13,958,822	\$136.08
Beginning of year	\$65,555,748	\$57,426,159	8,129,589	119.91
Unrealized net gains for year			5,829,233	—
Realized net gains for year			1,998,957	—
Total net gains for year			<u>\$ 7,828,190</u>	<u>\$ 16.17</u>

4. Receivables

Receivables at September 30, 1980 and 1979, included the following:

Current funds	1980	1979
Accounts receivable, auxiliary activities; net of allowance for doubtful accounts of \$251,000 in 1980 and \$258,000 in 1979	\$ 8,728,065	\$7,881,683
Unbilled costs and fees from grants and contracts	989,722	658,318
Interest and dividends receivable	945,455	949,571
Other	388,242	343,528
	<u>11,051,484</u>	<u>9,833,100</u>
Endowment and similar funds		
Notes receivable	38,138	40,308
Total, all funds	<u>\$11,089,622</u>	<u>\$9,873,408</u>

5. Endowment and similar funds

Endowment and similar funds at September 30, 1980 are summarized as follows:

Endowment funds, income available for:	
Restricted purposes	\$35,918,089
Unrestricted purposes	2,472,281
	<u>38,390,370</u>
Quasi-endowment funds, principal and income available for:	
Restricted purposes	3,592,314
Unrestricted purposes	22,439,628
	<u>26,031,942</u>
Total endowment and similar funds	<u>\$64,422,312</u>

The Institution utilizes the "total return" approach to investment management of endowment funds and quasi-endowment funds. Under this approach, the total investment return is considered to include realized and unrealized gains and losses in addition to interest and dividends. An amount equal to the difference between interest and dividends earned during the year and the amount computed under the total return formula is transferred to or from the current funds.

In applying this approach, it is the Institution's policy to provide, as being available for current expenditures, an amount taking into consideration such factors as, but not limited to: (1) 4½% of the five-year average of the market value of each fund (adjusted for gifts and transfers during this period), (2) current dividend and interest yield, (3) support needs for bureaus and scientists, and (4) inflationary factors as measured by the Consumer Price Index; however, where the market value of the assets of any endowment fund is less than 110% of the historic dollar value (value of gifts at date of donation), the amount provided is limited to only interest and dividends received. The total return factor for 1980 was \$5.00 per unit of fund participation. The total return applied for 1980 was \$2,745,992.

6. Property and equipment

Property and equipment is composed of the following:

	September 30,	
	1980	1979
<i>Current funds</i>		
Capital improvements	\$ 1,669,476	\$ 1,342,277
Equipment	787,862	602,777
Leasehold improvements	145,229	145,229
Less accumulated depreciation and amortization	1,133,548	806,551
	1,469,019	1,283,732
<i>Plant funds</i>		
Land and buildings	12,543,726	11,920,035
Total, all funds	<u>\$14,012,745</u>	<u>\$13,203,767</u>

Depreciation and amortization expense reflected in expenditures of the current funds for 1980 and 1979 was \$326,997 and \$221,202, respectively.

The balance of the plant fund at September 30, 1980 includes \$3,810,063 of unexpended plant funds.

7. Pension plan

The Institution has a retirement plan in which substantially all Trust Funds' employees are eligible to participate. Under the plan, both the Institution and the employees contribute stipulated percentages of salary which are used to purchase individual annuities, the rights to which are immediately vested with the employees. The cost of the plan for the year ended September 30, 1980 was \$2,072,520. It is the policy of the Institution to fund plan costs accrued currently. There are no unfunded prior service costs under the plan.

8. Income taxes

The Institution is exempt from income taxation under the provisions of Section 501(c)(3) of the Internal Revenue Code. Organizations described in that section are taxable only on their unrelated business income. The Internal Revenue Service is presently considering a request for technical advice pertaining to whether income derived from several of the Institution's activities is subject to tax as unrelated business income. If the Institution's position is upheld, no tax would be imposed on this income.

It is the opinion of the Institution that it is also exempt from taxation as an instrumentality of the United States as defined in Section 501(c)(1) of the Code. Organizations described in that section are exempt from all income taxation. The Institution has not yet sought such dual status.

Management believes that any income taxes required as a result of settlement of these matters would not have a material effect upon the financial position of the Institution.

CONSULTANT SERVICES

Public Law 96-304, Section 307, requires each Federal agency to include in its annual budget justifications, beginning in FY 1982, the estimated amount of funds requested for consulting services; the appropriation accounts in which these funds are located; and a brief listing of the major programs that require consulting services.

The Smithsonian Institution has obligational authority for consultant services under 5 U.S.C. 3109 of up to \$100,000 for the Salaries and Expenses Appropriation; \$10,000 for the Renovation and Restoration of Buildings Appropriation; and \$50,000 for the Construction Appropriations. These services cover consultants hired under temporary personnel appointments. In FY 1982 the Institution expects to obligate an amount of \$39,000 for consultant services in the Salaries and Expenses Appropriation under the authority of 5 U.S.C. 3109. A further amount of \$30,000 is expected to be obligated in FY 1982, also in the Salaries and Expenses Appropriation for consultant services obtained through a contract.

Specifically, under the authority of 5 U.S.C. 3109, the Smithsonian Astrophysical Observatory proposes to continue in FY 1982 the personnel appointments of two individuals who possess highly technical knowledge and experience not available on the regular staff in areas of space astronomy, such as tethered satellites. These individuals make significant contributions to the total research effort of the Smithsonian Astrophysical Observatory.

The contractual service proposed in FY 1982 is with a firm which will assist the Office of Protection Services in evaluating security requirements in museums and in assisting with the development of the proprietary alarm system.

SMITHSONIAN INSTITUTION LIBRARIES



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