

AM
101
S66
A455
MSRL-51
Budget

CPME COPY

SMITHSONIAN INSTITUTION

Budget Justifications for Fiscal Year 1987



Submitted to the Committees on Appropriations
Congress of the United States

February 1986

SMITHSONIAN INSTITUTION

FISCAL YEAR 1987

Justification of Estimates of Appropriations

SMITHSONIAN INSTITUTION

BOARD OF REGENTS

SECRETARIAT* — THE SECRETARY*

AUDITOR — UNDER SECRETARY*

CONGRESSIONAL LIAISON*

- Under Separate Boards of Trustees
- JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS
- NATIONAL GALLERY OF ART
- WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS

- ### BOARDS AND COMMISSIONS
- National Armed Forces Museum Advisory Board
 - National Board of the Smithsonian Associates
 - National Museum Act Advisory Council
 - National Museum of African Art Commission
 - National Museum of American Art Commission
 - National Portrait Gallery Commission
 - Smithsonian Council
 - Woman's Committee of the Smithsonian Associates
 - Archives of American Art Board of Trustees
 - Board of Fellowships and Grants
 - Cooper-Hewitt Museum Advisory Council
 - Folklife Advisory Council
 - Freer Visiting Committee
 - Hirshhorn Museum and Sculpture Garden Board of Trustees
 - Horticultural Advisory Committee
 - Joint Sponsoring Committee for the Papers of Joseph Henry
 - National Air and Space Museum Advisory Board

GENERAL COUNSEL*

Director of INTERNATIONAL ACTIVITIES*

- ### TREASURER*
- Business Management Office
 - Concessions
 - Mail Order Division
 - Smithsonian Museum Shops
 - Office of Accounting and Financial Services
 - Office of Grants and Risk Management

- International Center
- Office of Publications Exchange
- Office of Service and Protocol

Director of MEMBERSHIP AND DEVELOPMENT*

- Development Office
- Smithsonian National Associate Program
- Smithsonian Resident Associate Program

Assistant Secretary for SCIENCE*

- National Air and Space Museum
- National Museum of Natural History/National Zoological Park
- Office of Educational Research
- Office of Fellowships and Grants
- Smithsonian Astrophysical Observatory
- Smithsonian Environmental Research Center
- Smithsonian Tropical Research Institute

Assistant Secretary for HISTORY & ART*

- Anacostia Neighborhood Museum
- Archives of American Art
- National Air and Space Museum Center for Education
- Sackler Gallery of Art
- Cooper-Hewitt Museum and Garden
- Hirshhorn Museum and Sculpture Garden
- Joseph Henry Papers
- National Museum of African Art
- National Museum of American Art
- Renwick Gallery
- National Museum of American History
- National Portrait Gallery
- Office of American Studies

Assistant Secretary for PUBLIC SERVICE*

- Office of Elementary and Secondary Education
- Office of Folklife Programs
- Office of Public Affairs
- Office of Smithsonian Symposia and Seminars
- Office of Telecommunications
- Smithsonian Institution Press
- Smithsonian Magazine
- Visitor Information and Associates Reception Center

Assistant Secretary for MUSEUM PROGRAMS*

- Conservation Analytical Laboratory
- National Museum Act
- Office of Exhibits Central
- Office of Horticulture
- Office of Museum Programs
- Office of the Registrar
- Smithsonian Institution Archives
- Smithsonian Institution Libraries
- Smithsonian Institution Traveling Exhibition Service

Assistant Secretary for ADMINISTRATION*

- Contracts Office
- Management Analysis Office
- Office of Equal Opportunity
- Office of Facilities Services
- Office of Design and Construction
- Office of Plant Services
- Office of Protection Services
- Office of Information Resources Management
- Office of Personnel Administration
- Office of Printing and Photographic Services
- Office of Programming and Budget
- Office of Special Events
- Office of Supply Services
- Travel Services Office

*Secretary's Management Committee

SMITHSONIAN INSTITUTION

FISCAL YEAR 1987 ESTIMATES OF APPROPRIATIONS

TABLE OF CONTENTS

	<u>PAGE</u>
ORGANIZATION OF THE SMITHSONIAN INSTITUTION	
GENERAL STATEMENT.....	1
SALARIES AND EXPENSES	
Summary Tables.....	11
Uncontrollable Increases.....	14
<u>Science</u>	
Office of the Assistant Secretary.....	23
National Museum of Natural History/Museum of Man.....	26
Smithsonian Astrophysical Observatory.....	32
Smithsonian Tropical Research Institute.....	39
Smithsonian Environmental Research Center.....	47
National Air and Space Museum.....	51
National Zoological Park.....	57
<u>History and Art</u>	
Office of the Assistant Secretary.....	62
National Museum of American History.....	64
National Museum of American Art.....	72
National Portrait Gallery.....	78
Hirshhorn Museum and Sculpture Garden.....	84
Center for Asian Art.....	88
Archives of American Art.....	98
Cooper-Hewitt Museum.....	102
National Museum of African Art.....	107
Anacostia Neighborhood Museum.....	114
<u>Public Service</u>	
Office of the Assistant Secretary.....	118
Smithsonian Institution Press.....	124

Museum Programs

Office of the Assistant Secretary.....	127
Office of the Registrar.....	130
Conservation Analytical Laboratory.....	132
Smithsonian Institution Libraries.....	137
Office of Exhibits Central.....	142
Smithsonian Institution Traveling Exhibition Service.....	145
Smithsonian Institution Archives.....	151
National Museum Act.....	154

<u>Directorate of International Activities.....</u>	157
---	-----

Special Programs

American Studies and Folklife Programs.....	165
International Environmental Science Program.....	169
Academic and Educational Programs.....	173
Collections Management/Inventory Program.....	180
Museum Support Center.....	185

<u>Administration.....</u>	190
----------------------------	-----

Facilities Services

Office of Design and Construction.....	196
Office of Protection Services.....	199
Office of Plant Services.....	203

MUSEUM PROGRAMS AND RELATED RESEARCH (SPECIAL FOREIGN CURRENCY PROGRAM).....	209
---	-----

FACILITIES PLANNING, RENOVATION, RESTORATION, AND CONSTRUCTION

Construction and Improvements, National Zoological Park.....	213
Restoration and Renovation of Buildings.....	215
Construction:	
Quadrangle.....	229
Smithsonian Tropical Research Institute.....	231

APPENDIX

Appropriation by Object Class, Salaries and Expenses.....	A-1
Visitors to Smithsonian, FY 1980-FY1984.....	A-2
Smithsonian Institution, Financial Summary, FY 1984-FY 1986.....	A-3
Treasurer's Report - FY 1984.....	A-4
Adjustments to FY 1986 Appropriation.....	A-48

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, D.C., 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 millions of visitors annually to its museums, galleries and zoological park. Many others 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 100 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 13 exhibition buildings in Washington, D.C. and New York City in the fields of science, history, technology and art; a zoological park in Washington, D.C. and an animal conservation and research center near 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 spacecraft display facility at Suitland, Maryland; two natural preserves in Panama and on the Chesapeake Bay; a photo-biological laboratory in Rockville, Maryland; an oceanographic research facility at Link Port, Florida; astrophysical stations in Massachusetts and Arizona; and supporting administrative, laboratory and storage areas.

Effective by mid-1986, the Smithsonian Institution will be reorganized along more functional lines to achieve strengthened coordination and oversight of related programs. The position of Assistant Secretary for Museums has been established combining the line responsibilities previously held by the Assistant Secretaries for History and Art and Museum Programs. All museums and closely related program and supportive activities are being assigned to this position. Similarly, the position of Assistant Secretary for Research has been established, replacing the Assistant Secretary for Science, with direct responsibility for the Institution's research programs and certain closely related supportive activities. It is expected that these two new Assistant Secretaries will work closely together in oversight of the total body of work under their purview. In another action, the development function has been redefined to allow bureaus and offices to exercise more direct fund-raising efforts in coordination with the Office of Membership and Development. These changes are not reflected in this budget.

Smithsonian Goals and Functions

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 100 million art, technological and cultural history objects and natural history and anthropological 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: The Smithsonian, by virtue of its staff, collections, data bases and research facilities, is a unique international resource in basic research. Complementing industrial, Federal and university research, the Smithsonian's long-term research activities provide critical continuity to the Nation's research enterprise in a number of disciplines. Smithsonian research serves as the foundation for the Institution's public activities. The accuracy and currency of the Institution's exhibitions and the quality of its public education programs depend directly on the research of the staff.

--Exhibitions, including performances and festivals or celebrations: These presentations constitute one means of diffusing knowledge on a wide scale. In Washington, D.C. and New York City, 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, over 100 exhibitions are seen annually by millions of people in most states and the District of Columbia. Live performances, festivals, celebrations, lectures and records also are enjoyed by millions of people.

--Education: Education programs of the Institution 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 museums and by centralized offices including Fellowships and Grants, Symposia and Seminars, and Elementary and Secondary Education. A 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 over 2 million Associates' families. 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 offers assistance to museums across the country and abroad by conducting museum training courses, producing and distributing audio-visual programs on conservation principles and techniques and by awarding grants for professional museum training and research.

--Collections acquisition: 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 materials 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 exhibitions programs are to thrive, the collections must grow by thoughtful design. To meet this responsibility and challenge, the Smithsonian provides funding specifically for collections acquisition 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 1987 Budget Priorities

The funding needs addressed in the Smithsonian's FY 1987 budget request represent the Institution's priorities identified through the review and evaluation of specific program requirements within the context of broad goals for FY 1987 and the future as expressed by the Secretary. These major program priorities, determined with the participation of managers and administrators at each stage of review, continue the emphasis from FY 1986 and previous years to provide adequate base resources to enable all of the Institution's museums, research organizations and support functions to carry out their ongoing programs effectively; to establish the base level of support for Quadrangle programs and activities required for the scheduled public opening in mid-1987 and for full operations; to continue the equipping of the Museum Support Center (MSC) and the preparation and transfer of museum collections to the MSC; and to ensure the long-term maintenance and improvements to the building and facilities of the Institution. Other priorities identified are further support for the current research programs of the Institution, especially in the fields of tropical biology, astrophysics, and art; exhibitions and public programs to commemorate the Bicentennial of the Constitution in 1987; and the planning and development of the programs, exhibitions and activities to commemorate the Quincentenary (in 1992) of the voyage of Christopher Columbus to the New World. These priorities are reflected in the Institution's budget request for FY 1987. Major construction projects supported in the FY 1987 budget include the Quadrangle project and the construction of a conference and laboratory facility for the Smithsonian Tropical Research Institute.

I. Salaries and Expenses

<u>FY 1985 Actual</u>	<u>FY 1986 Appropriation</u>	<u>FY 1987 Estimate</u>
\$164,148,000	\$176,995,000	\$190,061,000

The requested increase of \$13.1 million over the FY 1986 appropriation consists of \$6.1 million for uncontrollable increases; \$4.2 million of Quadrangle-related support; \$1.45 million for Museum Support Center equipment and move; \$1.0 million for research programs and support; \$376,000 for the exhibitions and programs to commemorate the Bicentennial of the U. S. Constitution; and \$245,000 to begin the planning and development of programs to commemorate the Columbus Quincentenary. The FY 1987 request includes the reduction of \$348,000 reflecting the elimination of the one-time FY 1986 trustee grant to John F. Kennedy Center.

Uncontrollable increases include projected higher costs in FY 1987 compared with FY 1986 for current staff (\$1.9 million), for utilities, postage, and communications (\$2.4 million), and for space rental (\$349,000); and resources to help compensate for the effects of inflation in nonsalary areas of expense (\$1.6 million). Also included as uncontrollable costs are the increased requirement for workers' compensation (\$192,000) and the Grade Target Reduction assessed by the Office of Management and Budget for FY 1987 (\$373,000).

For FY 1987, an increase of \$4.2 million is requested for Quadrangle-related support. Of this amount, a sum of \$1.6 million is required to annualize the partial-year funding for 113 positions approved in the FY 1986 budget for Quadrangle support. An additional sum of \$1.3 million is requested for the personnel costs of 94 new positions to be hired during FY 1987. (Full-year funding for these new positions is anticipated to be sought in the FY 1988 budget request.) An amount of \$1.3 million also is requested for Quadrangle-related program support costs. The requested

funding is essential in order that the Institution can continue to plan to have the public opening of the Quadrangle in mid-1987. Major inaugural exhibitions are planned for the galleries located in the Quadrangle. At the Sackler Gallery, the collection of objects donated by Dr. Arthur M. Sackler will be displayed, with other major objects from his private collection on loan. The National Museum of African Art will present three important exhibitions: "African Art and the Cycle of Life," "African Textiles," and "African Art from the Permanent Collection." In the International Gallery, the exhibition "Generations: Birth Rituals and the Roots of Becoming" will provide a multidisciplinary, multicultural investigation of the art and rituals associated with birth from ancient times to the present.

A total of \$4.6 million, an increase of \$1.3 million over the FY 1986 base, is required to continue the purchase and installation of collections storage equipment for the Museum Support Center. In addition, funding of \$712,000 (an increase of \$150,000 over the FY 1986 base) will be needed in FY 1987 to prepare and transfer the collections to the MSC.

For FY 1987, an increase of \$1.0 million is requested to augment Smithsonian's current research capabilities. An amount of \$345,000 is requested for the National Museum of Natural History to study biological diversity in the Amazon Basin. The Smithsonian Astrophysical Observatory requests \$150,000 to initiate instrument development in the new field of submillimeter astronomy. A requested increase of \$345,000 for the Smithsonian Tropical Research Institute will permit the expansion of its research capabilities in tropical biology. Increases totaling \$175,000 are requested for the National Museum of American Art, the Hirshhorn Museum and Sculpture Garden, the Archives of American Art, and the Cooper-Hewitt Museum to reinforce the research programs related to their collections. Expanded support for research has been identified as an important priority for the Institution.

To present exhibitions and public programs related to the commemoration of the Bicentennial of the Constitution in 1987, an increase of \$376,000 is requested. The National Museum of American History will mount a special exhibition, "The Japanese American Experience in World War II," as the centerpoint for an exposition on the Constitution as a living and unfolding document. The National Portrait Gallery will research and develop an exhibition on "Portraits of Distinguished Jurists," featuring a selection of the most historically enlightening portraits of individuals who have been pivotal interpreters and shapers of our legal institutions. The Office of Smithsonian Symposia and Seminars will sponsor a symposium on "Constitutional Roots, Rights, and Responsibilities," in May 1987 and the Office of Elementary and Secondary Education will support a three-part program to highlight the meaning of the 200th anniversary of the U. S. Constitution and the Bill of Rights for elementary and high school students.

Initial funding of \$245,000 is requested to support the development or preliminary planning and Institution-wide coordination of the wide range of public and scholarly programs to commemorate the 500th anniversary of Christopher Columbus' voyage to the New World. The Quincentenary celebration will offer an opportunity to encourage public and scholarly consideration of the significance of Columbus' voyage and to promote better understanding of the Americas as a geographical entity with shared historical roots and concern for future life in this hemisphere.

	<u>FY 1986 Base</u>	<u>Uncon- trollable Increases</u>	<u>Program Increases</u>	<u>FY 1987 Estimate</u>
Science	\$ 57,648,000	\$1,519,000	\$ 825,000	\$ 59,992,000
History and Art	32,193,000	784,000	2,012,000	34,989,000
Public Service	2,325,000	48,000	31,000	2,404,000
Museum Programs	10,831,000	267,000	356,000	11,454,000
Directorate of International Act.	527,000	10,000	490,000	1,027,000
Special Programs	8,500,000	113,000	1,213,000	9,826,000
Administration	12,411,000	68,000	25,000	12,504,000
Facilities Services	52,560,000	3,286,000	2,019,000	57,865,000
Total	<u>\$176,995,000</u>	<u>\$6,095,000</u>	<u>\$6,971,000</u>	<u>\$190,061,000</u>

II. Special Foreign Currency Program

<u>FY 1985 Appropriation</u>	<u>FY 1986 Appropriation</u>	<u>FY 1987 Estimate</u>
\$8,820,000	\$2,485,000	\$ -0-

The Smithsonian's Special Foreign Currency Program supports research conducted by United States institutions in excess currency countries. Since the inception of the Program in FY 1966, Special Foreign Currency Program grants have been made to 247 United States institutions to support more than 850 individual projects. Publications resulting from Program grants total more than 1,450 to date. In FY 1986, the Smithsonian will provide the final contribution (for a total of \$4.0 million) to salvage the city of Moenjodaro in Pakistan. No additional funding for this Program is requested for FY 1987.

III. Facilities Planning, Renovation, Restoration and Construction

<u>FY 1985 Appropriation</u>	<u>FY 1986 Appropriation</u>	<u>FY 1987 Estimate</u>
\$18,326,000	\$20,503,000	\$25,179,000

Construction and Improvements, National Zoological Park (\$4,851,000) - The FY 1987 budget request for Construction and Improvements at the National Zoological Park will support the renovation of the old hospital and research building at Rock Creek into a modern research facility (\$2.5 million); the second phase of the renovation and improvement of Olmsted Walk (\$600,000); and renovation, repairs and improvements at Rock Creek (\$1.4 million and at the Zoo's Conservation Research Center at Front Royal, Virginia (\$351,000).

Restoration and Renovation of Buildings (\$12,828,000) - The FY 1987 appropriation request for Restoration and Renovation of Buildings consists of repairs to facades, roofs and terraces of various historical and monumental buildings; the upgrading, including planning and installation, of fire detection and suppression systems; the provision of improved access for the disabled; 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; general repairs and improvements that are required for a variety of purposes; and improvements in support of programmatic objectives, the most notable of which are major renovation at the Freer Gallery of Art and construction of facilities in support of research at the Smithsonian Tropical Research Institute.

Construction (\$7,500,000) - The FY 1987 budget request for major construction will provide funding for the completion of the Quadrangle (\$4.0 million) and construction of a laboratory and conference center to be build at the Smithsonian Tropical Research Institute in Panama City (\$3.5 million, with an additional amount of \$4.0 million provided by a donation from the family of the late Earl S. Tupper).

Balanced Budget and Emergency Deficit Control Act of 1985 (P.L. 99-177)

The 4.3 percent sequestration required under the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177) amounts to \$8,599,000 for all accounts as follows:

(\$000)			
<u>Account</u>	<u>FY 1986 Appropriation</u>	<u>Sequestration (4.3 percent)</u>	<u>FY 1986 Reduced Appropriation</u>
Salaries and Expenses	\$176,995	\$ 7,611	\$169,384
Special Foreign Currency Program	2,485	107	2,378
Construction and Improvements, NZP	5,518	237	5,281
Restoration and Reno- vation of Buildings	11,009	473	10,536
Construction	3,976	171	3,805
Totals	<u>\$199,983</u>	<u>\$ 8,599</u>	<u>\$191,384</u>

The sequestration is shown in this budget at the line item level within the Salaries and Expenses appropriation and at the appropriation level for the other accounts. Following general discussion and suggestions as to strategy, the directors of organizational units or programs were asked to prepare revised program and financial plans reflecting the appropriation reductions. These plans, to be submitted in early February, will be reviewed and approved for effectiveness in meeting the required curtailments and for acceptable levels of consistency in continuing services to the Institution's full range of constituents. Reductions in all areas of Smithsonian service are expected. It should be noted that this sequestration of funds comes one-third into FY 1986 and thus amounts to approximately a six percent cut for the balance of the year. Furthermore, it comes on the heels of a two percent base reduc-

tion in FY 1985 which continues in FY 1986 with a further 0.6 percent reduction in this year and other cuts in requested funds to correct base shortages. Information on specific actions to be taken by the Institution as a result of these across-the-board reductions will be available for the appropriation hearings and, as necessary, will be presented to the Committees in reprogramming requests. Since the prospects for even larger reductions exist in FY 1987 and subsequent years, review and study efforts will get under way soon to examine closely a range of actions aimed at producing larger savings. The actions to be considered will include possible reorganizations, program curtailments and/or terminations, substantial reductions in public accessibility, and staff reductions or furloughs. In order to implement many of these actions, however, it will be necessary to break away from the across-the-board percentage approach required by the Act with additional flexibility provided to the Institution. The updated Five-Year Prospectus, usually submitted with the budget justifications, will be delayed until March or April.

NONAPPROPRIATED SOURCES OF FUNDING

In addition to the support provided by Federal appropriations, the Institution also receives nonappropriated funds to expand and enrich its programs. The Nonappropriated Fund activities (Trust funds) are presented along with the Federal budget request to provide an overview of all uses of funds for each Smithsonian bureau. It must be emphasized that the estimates for Trust funds are subject to change due to the unpredictability of donations, grants and contracts to the Institution, fluctuations in visitor attendance and uncertain economic factors affecting restaurant, mail order and shop revenues, Associates' memberships and other auxiliary activities. The Institution's gross operating revenue, less the expenses of the auxiliary activities, represents the net operating revenue available for programmatic and other worthwhile purposes.

The FY 1986 Trust budget comprises approximately 50 percent of the total Institution's gross operating revenues or approximately 22 percent of net operating revenues. Included in the above are Federal grants and contracts received from government agencies which are expected to total nearly \$16 million in FY 1986. Gross revenues of nonappropriated Trust funds (excluding Federal grants and contracts) are expected to continue to grow as in previous years and reach \$170 million in FY 1986. Net income, however, is projected in the \$36 million range (of which \$12 million is projected for restricted purposes).

The Trust funds are composed of unrestricted funds, restricted funds and Federal grants and contracts and are applied in the following manner:

A. Unrestricted Funds

1. General - Central management and administrative service units of the Institution, such as legal counsel, accounting, personnel, supply and budget receive Trust allotments. These allotments primarily are funded from overhead recovery on grants and contracts received by the Smithsonian and from internal administrative fees charged to other Trust-funded activities. Operating funds are provided to various activities such as the Visitors Information and Associates' Reception Center, the Cooper-Hewitt Museum, Smithsonian Tropical Research Institute, Office of Telecommunications and the Office of Folklife Programs along with a variety of program allotments for important Institutional and bureau needs as approved by the Board of Regents. These allotments primarily are funded from short-term investment income, unrestricted endowment income and net proceeds from museum shops, food service concessions, sales of Smithsonian books, records and other products based on designs and objects in the collections, and from the Resident Associate and National Associate Programs (including Smithsonian magazine).

2. Special Purpose - Certain bureaus have income-producing activities, the largest of which are the Theater and Spacearium operations of the National Air and Space Museum. Also included in this category are miscellaneous bureau revenues from the sale of posters, exhibit brochures and publications; tuition grants from universities; the museums' share of sales in the restaurant and museum shops; membership and admission fees; exhibit rental; and investment income from current fund balances.

Beginning in FY 1979, the Board of Regents approved using the Institution's unrestricted Trust funds for certain programs previously financed with appropriated funds. These consist of the Institution's various fellowship programs (FY 1986 allotment of \$2.3 million and almost \$2.7 million in FY 1987) 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 (FY 1986 allotment of \$810,000).

The Special Purpose category also includes awards from the Institution's Collections Acquisition, Scholarly Studies and Educational Outreach Program, the Research Opportunities Fund, the Smithsonian Society Awards Program, and the Special Exhibition Fund.

A substantial continuing commitment under this category is the \$2.65 million annual allocation for the Institution's Collections Acquisition, Scholarly Studies and Educational Outreach Program, first approved by the Board of Regents in FY 1978. Of the \$2.65 million, an amount of \$1.1 million is available annually for purchase of objects of outstanding importance to the collections. FY 1985 marked the initial participation of the Arthur M. Sackler Gallery in the Collections Acquisition portion of the Program. The Gallery's first purchase was an extraordinary late 18th- or early 19th-century Japanese ceremonial palanquin (norimono) finished in lacquer. In December 1985, the Gallery utilized these Program funds to provide partial support for the purchase of the Vever collection of magnificent Islamic and Persian art consisting of 39 volumes, 291 miniatures, 98 calligraphies and illuminations, 29 bookbindings, 4 textiles and examples of almost all of the classical Persian text known. The works in this collection will provide invaluable research material for a whole generation of scholars. In addition, the National Museum of American Art acquired its first painting by famed muralist Thomas Hart Benton, a 7 x 24 foot mural of "Achelus and Hercules"; the National Museum of Natural History/Museum of Man bought the outstanding Brodzinsky Fossil Amber Collection and a collection of Cyperaceae Herbarium specimens; and the Hirshhorn Museum and Sculpture Garden purchased the Sculpture, Soft Engine for Air flow with Fan Transmission-Scale 5 (Model) by Claes Oldenburg. Each of these important acquisitions was supplemented by varying amounts of outside contributions.

An additional amount of \$1.0 million is designated by the Program 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 between bureaus and projects that have been awarded external funds, which require matching Trust amounts. For example, scientists at the National Museum of Natural History/Museum of Man (NMMH/MOM) are investigating major explosive eruptions of Costa Rican volcanoes. The study examines prehistoric volcanic activity and its role as an indicator of present land forms, and potential areas to be monitored for future volcanic activity. Little is known of the prehistoric volcanic activity in Costa Rica, and information produced will be compared with similar efforts worldwide, to develop a global volcanic profile. Also, the NMMH/MOM scientists are engaged in a study which focuses on the geological and paleontological evidence which might suggest the formation of the present Mediterranean Sea. The study will complement other efforts under way to understand how the earth was formed, and testing theories of plate tectonics and crustal formation.

The remaining \$550,000 of the \$2.65 million available for this Program is allocated to conduct a wide range of educational outreach programs of benefit to the public such as to the Office of Fellowships and Grants for Visiting Academic Associates, a program to bring individuals from universities and colleges throughout the United States who have an interest and commitment to expanding minority academic opportunities to the Smithsonian to learn about research and professional opportunities; and to the Office of Education, National Museum of Natural History/Museum of Man and the Smithsonian National Associates Program for a workshop program offering teachers in cities remote from the Washington metropolitan area access to resources in the Smithsonian which will enliven their teaching and bring an understanding of the way in which natural science museums can be used to enhance the teaching of science. Funds have also gone to the Office of Museum Programs to conduct a two-day on-site training seminar "Policy and Management for Directors and Trustees of African-American Museums" for 26 African-American museum professionals and trustees; to an Exhibitions Design and Production Training Project consisting of a two week Smithsonian-based workshop in which ten participants from tribal museums were introduced to basic design and production information and assisted with the planning for the installation of an exhibit case or small area; and to the National Museum of American History for a unique demonstration/exhibit at the quadrennial meeting of the International Congress for the History of Science (and Technology) with the goal of educating academic historians to the potential uses of museum presentations in research and teaching.

In FY 1985, the Board of Regents approved an annual Trust-funded allocation for the Special Exhibition Fund. The cost of exhibition programs has generally been met with Federal funds which will continue to provide the predominant financing for the Institution's overall exhibition effort, as supplemented by donations from individuals, foundations and corporations. To be part of and administered similar to the Collections Acquisition, Scholarly Studies and Educational Outreach Program, the Special Exhibition Fund with \$3 million in FY 1986 and \$3.5 million in FY 1987 will increase opportunities by providing funds for important temporary major exhibitions as proposed by organizations of the Institution. Subject to a competitive review and selection process, the request must be for temporary special exhibitions of sufficient importance to provide benefit to the viewing public and accompanied by a scholarly catalogue or similar work. One of the first exhibitions to utilize these funds was "The Magnificent Voyagers" by the National Museum of Natural History/Museum of Man. This exhibition introduced to the American public the U.S. Exploring Expedition of 1838-1842 and established its place in the development of natural and naval science in America. Exhibitions currently in the planning stage include: "Field to Factory: Afro-American Migration 1915-1940" by the National Museum of American History, which will portray the movement of hundreds of thousands of Afro-Americans from southern states to northern urban centers during and after World War I; and "ZOOARK Twentieth Century: The Last Chance" by the National Zoological Park, which will assert the importance of zoos for the future of many endangered species and for the development of public opinion on the relationship between man and animals.

B. Restricted Funds

Restricted Trust funds include gifts, grants and endowments from individuals, foundations, organizations and corporations which specify the use of the donation or bequest. Generally, these funds provide support for a particular exhibit or research project. The Freer fund is the largest restricted endowment of the Institution. It is strictly controlled under the terms of the original gift and bequest for the sole use of the Freer Gallery of Art.

C. Federal Grants and Contracts

Federal grants and contracts are provided by various agencies and departments for special projects which can be conducted at the Smithsonian because of its expertise in a particular area of science, history, art or education, and because of its ability to respond quickly to certain kinds of needs.

SALARIES AND EXPENSES

SMITHSONIAN INSTITUTION

SALARIES AND EXPENSES

Summary of FY 1987 Increase

Appropriation, FY 1986 <u>/1</u>		\$176,995,000
FY 1987 Requested Increase:		
Uncontrollable Increase	\$ 6,095,000	
Program Increase <u>/2</u>	<u>6,971,000</u>	
Total Requested Increase	\$13,066,000	
FY 1987 Request		\$190,061,000

/1 Reduction pursuant to Public Law 99-177 (Balanced Budget and Emergency Deficit Control Act of 1985) would be \$7,611,000 resulting in an appropriation for FY 1986 of \$169,384,000.

/2 Actual program increase totals \$7,319,000 offset by a reduction of \$348,000 (trustee grant to the John F. Kennedy Center in FY 1986) and includes an amount of \$1,598,000 required to annualize the partial-year funding of 113 positions approved in the FY 1986 budget for Quadrangle-related support.

SMITHSONIAN INSTITUTION
"Salaries and Expenses"

Summary of the 1985 Appropriation and the 1986 and 1987 Estimates

(Dollars in Thousands)

FTE = Full Time Equivalent

Page No.	Unit	1985 Actual		1986 Base		1987 Estimate		Analysis of Increase		
		FTE	Amount	FTE	Appropriation /1 PL 99-177 /2	FTE	Amount	FTE	Uncontrollable	Program
<u>SCIENCE</u>										
23	Asst. Secretary for Science	9	516	11	488	11	497	0	9	0
26	National Museum of Natural History	505	20,194	510	21,104	510	21,888	0	454	330
32	Astrophysical Observatory	98	8,446	97	8,696	97	9,291	0	445	150
39	Tropical Research Institute	88	3,554	87	3,798	87	4,243	0	100	345
47	Environmental Research Center	65	3,324	69	3,528	69	3,614	0	86	0
51	National Air and Space Museum	227	8,112	211	8,515	211	8,712	0	197	0
57	National Zoological Park	320	11,104	318	11,519	318	11,747	0	228	0
	Subtotal, Science	1,312	55,250	1,303	57,648	1,303	59,992	0	1,519	825
<u>HISTORY & ART</u>										
62	Asst. Secretary for History and Art	9	401	8	364	8	370	0	6	0
64	National Museum of American History	301	11,130	301	11,912	301	12,357	0	260	185
72	National Museum of American Art	115	4,625	118	4,793	118	4,959	0	106	60
78	National Portrait Gallery	82	3,407	83	3,591	83	3,770	0	99	80
84	Hirshhorn Museum & Sculpture Garden	73	2,923	77	3,112	77	3,233	0	81	40
88	Center for Asian Art	33	1,549	46	3,074	68	4,106	22	98	934
98	Archives of American Art	17	732	18	894	18	931	0	12	25
102	Cooper-Hewitt Museum	26	880	26	942	26	1,011	0	19	50
107	National Museum of African Art	28	1,188	40	2,623	55	3,342	15	81	638
114	Anacostia Neighborhood Museum	17	817	19	888	19	910	0	22	0
	Subtotal, History and Art	701	27,652	736	32,193	773	34,989	37	784	2,012
<u>PUBLIC SERVICE</u>										
118	Asst. Secretary for Public Service	25	1,170	23	1,204	23	1,257	0	22	31
124	Smithsonian Institution Press	29	1,124	29	1,121	29	1,147	0	26	0
	Subtotal, Public Service	54	2,294	52	2,325	52	2,404	0	48	31

Page No.	Unit	1985 Actual			1986 Base			1987 Estimate			Analysis of Increase	
		FTE	Amount		FTE	PL 99-177 /2	Appro- priation /1	FTE	Amount	FTE	Uncontrol- lable	Program
	<u>MUSEUM PROGRAMS</u>											
127	Asst. Secretary for Museum Programs	16	593		19	703	728	19	748	0	20	0
130	Office of the Registrar	1	32		2	95	99	2	102	0	3	0
132	Conservation Analytical Laboratory	32	1,783		39	1,945	2,019	39	2,069	0	50	0
137	Smithsonian Institution Libraries	91	4,289		96	4,455	4,664	98	4,836	2	140	32
142	Office of Exhibits Central	44	1,470		42	1,543	1,603	46	1,774	4	30	141
145	Traveling Exhibition Service	6	332		8	363	407	15	601	7	11	183
151	Smithsonian Archives	14	511		15	518	539	15	552	0	13	0
154	National Museum Act	3	753		3	739	772	3	772	0	0	0
	Subtotal, Museum Programs	207	9,763		224	10,361	10,831	237	11,454	13	267	356
157	<u>DIRECTORATE OF INTERNATIONAL ACTIVITIES</u>	7	272		12	441	527	13	1,027	1	10	490
	<u>SPECIAL PROGRAMS</u>											
165	American Studies & Folklife Programs	9	698		8	681	711	8	735	0	24	0
169	Int'l Environmental Science Program	11	680		13	697	728	13	752	0	24	0
173	Academic & Educational Programs	20	705		19	738	701	19	828	0	16	111
180	Collections Management/Inventory	40	1,019		38	1,073	1,121	38	1,145	0	24	0
185	Museum Support Center	45	4,678		36	4,680	4,891	36	6,366	0	25	1,450
	John F. Kennedy Center Grants	0	686		0	333	348	0	0	0	0	-348
	Subtotal, Special Programs	125	8,466		114	8,202	8,500	114	9,826	0	113	1,213
190	<u>ADMINISTRATION</u>	247	11,393		250	11,435	12,411	252	12,504	2	68	25
	<u>FACILITIES SERVICES</u>											
196	Office of Design and Construction	39	1,923		35	2,009	2,088	35	2,123	0	35	0
199	Office of Protection Services	633	17,116		698	17,365	18,132	741	19,340	43	391	817
203	Office of Plant Services	419	30,019		451	31,013	32,340	500	36,402	49	2,860	1,202
	Subtotal, Facilities Services	1,091	49,058		1,184	50,387	52,560	1,276	57,865	92	3,286	2,019
	Workyear Allocation Adjustment							-45				
	<u>GRAND TOTAL</u>	3,744	164,148		3,875	169,384	176,995	3,975	190,061	145	6,095	6,971

/1 Reflects distribution of OMB Grade Target Reduction and other reorganizations and reprogrammings as detailed on page A-48.

/2 Reflects proposed level pursuant to the Balanced Budget and Emergency Deficit Control Act of 1985.

FY 1987 UNCONTROLLABLE INCREASES

Funds are sought to finance increased costs that are beyond the control of the Institution. These costs result from established practices in regulating wages; higher utility, postage and communications charges; and the effects of inflation. Consequently, an amount of \$6,095,000 is requested for these increases.

1. Salary and Related Costs	
--Within-grade Step Increases	\$1,891,000
--Workers' Compensation	192,000
--OMB Grade Target Reduction	<u>-373,000</u>
Total Salary and Related Costs	\$1,710,000
2. Utilities, Postage and Communications	
--Electricity	\$2,394,000
--Steam	-442,000
--Gas	-302,000
--Fuel Oil/Water	65,000
--Communications	716,000
--Postage	315,000
--Reimbursements	<u>-300,000</u>
Total Utilities, Postage, Communications	\$2,446,000
3. Rental Space	\$ 349,000
4. Inflation	<u>\$1,590,000</u>
Grand Total, Uncontrollable Increases	<u>\$6,095,000</u>

SALARY AND RELATED COSTS - An amount of \$1,710,000 is required for the projected higher costs in FY 1987 for FY 1986 staff. These are provided to employees as a result of within-grade increases (\$1,891,000). Funds also are required in FY 1987 to cover increased workers' compensation costs (\$192,000). These requested increases are being offset by a reduction of \$373,000 which was mandated by the Office of Management and Budget (OMB) affecting positions in grades GS-11 through GS-15. Costs required for within-grade increases are calculated for each of the bureaus and offices taking into consideration workyears authorized by OMB.

Within-grade Step Increases - A sum of \$1,891,000 is sought in FY 1987 for within-grade step increases. For General Schedule employees, these increases are required by Section 5335 of Title 5, United States Code. Wage employees are covered by law and prevailing rates. Increases include the part-year cost of new actions scheduled to occur in the budget year, as well as the cost of annualizing step increases occurring in the current fiscal year.

Workers' Compensation - An amount of \$192,000 is required to meet the provisions of Section 8147(b) of Title 5, United States Code as amended on April 21, 1976 by Public Law 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 1987 bill for the Institution totals \$746,000. (This

bill covers the actual expenses incurred for the period July 1, 1984 through June 30, 1985.) With an amount of \$554,000 in the Institution's base for workers' compensation, additional funds totaling \$192,000 are requested.

OMB Grade Target Reduction - In FY 1985, at the direction of the President, the Office of Management and Budget and the Office of Personnel Management (OPM) implemented a joint initiative to improve the management of positions and lower the average grade levels in the GS/GM-11 to-15 grade range. Thus far, the reduction assessed the Smithsonian is \$560,000. A sum of \$373,000 will be relinquished in FY 1987, and a like amount in FY 1988. For FY 1989, the reduction will be \$186,000. The cumulative reduction over the five-year period will total \$1,492,000.

UTILITIES, POSTAGE AND COMMUNICATIONS - The Smithsonian central utilities account in FY 1986 consists of \$15,606,000 in base resources appropriated to defray the costs of electricity, steam, gas, fuel oil, water, postage, and communications at nearly all Institution facilities, including the Quadrangle now nearing completion. An amount of \$2,446,000 is sought in FY 1987 to cover higher costs of these items. Projections of future year utilities costs are determined based on analyses which take into account a variety of factors. These projections include comparative data on actual energy consumption in previous years for each facility, and adjustments for normal weather conditions for this area based on information furnished by the National Weather Service; actual and projected rates charged by utility companies; actual and projected annual reimbursements for utility costs from concessions, Museum Shops and the Friends of the National Zoo; modifications to work and public spaces within facilities; vigorous energy conservation efforts under way in Smithsonian buildings; the design of new facilities constructed; and anticipated increases in consumption expected due to the installation of computers and other equipment used throughout the Institution to support program objectives. The following table shows the costs and funds available to cover the components of the utilities account between FY 1985 and FY 1987.

ANALYSIS OF UTILITIES COSTS - FY 1985 - FY 1987

	<u>FY 1985</u> Actual	<u>FY 1986</u> Estimate	<u>FY 1987</u> Estimate
<u>ELECTRICITY</u>			
<u>Use</u> - Millions of KWH	84.9	97.8	103.6
<u>Unit Cost</u> - Average per KWH	.0757	.0800	.0860
<u>Cost</u> - \$000s	\$6,422	\$7,822	\$8,908
FY 1987 Estimated Cost			\$8,908
FY 1986 Base			<u>\$6,514</u>
		Base Shortage, Electricity	<u>\$2,394</u>
<u>STEAM</u>			
<u>Use</u> - Millions of Pounds	167.0	189.0	204.0
<u>Unit Cost</u> - Average per 1,000 lbs.	15.5	14.5	14.5
<u>Cost</u> - \$000s	\$2,581	\$2,741	\$2,958
FY 1987 Estimated Cost			\$2,958
FY 1986 Base			<u>\$3,400</u>
		Base Surplus, Steam	<u>\$ 442</u>
<u>GAS</u>			
<u>Use</u> - Millions of Cubic Feet	1.194	1.242	1.292
<u>Unit Cost</u> - Average per Cu. Ft.	.7354	.7722	.7722
<u>Cost</u> - \$000s	\$ 878	\$ 959	\$ 998
FY 1987 Estimated Cost			\$ 998
FY 1986 Base			<u>\$1,300</u>
		Base Surplus, Gas	<u>\$ 302</u>
<u>FUEL OIL/WATER</u>			
<u>Costs</u> - \$000s	\$ 235	\$ 325	\$ 390
FY 1987 Estimated Cost			\$ 390
FY 1986 Base			<u>\$ 325</u>
		Base Shortage, Fuel Oil/Water	<u>\$ 65</u>
<u>OFFSETTING REIMBURSEMENTS</u>	\$ -261	\$ -292	\$ -300

Electricity - The major component (\$2,394,000) of the proposed utility increase is for electricity. Consumption and cost estimates have been refined to take into consideration full occupancy of the Museum Support Center in Suitland, Maryland, and the new Quadrangle facility on The Mall. Projected higher costs for electricity also take into consideration a 7.5 percent rate increase approved in FY 1985 by the District of Columbia Public Service Commission, and increased consumption due to installation of computers and other equipment used throughout the Institution to support program objectives.

Steam - The projected surplus of \$442,000 for steam is attributable to a reduction in the rate charged by the General Services Administration which took effect in FY 1986 and more than offset consumption increases associated with the initial occupancy of the Quadrangle in FY 1987.

Gas - The projected surplus of \$302,000 for gas is attributable primarily to heightened conservation efforts which have offset increases in consumption due to occupancy of the Museum Support Center and as a result of space modifications to facilities at Suitland, Maryland and at the National Zoological Park.

Fuel Oil/Water - The projected shortage for fuel oil/water (\$65,000) is attributable to increased fuel oil costs for the Museum Support Center.

ANALYSIS OF COMMUNICATIONS COSTS

	<u>FY 1985</u> <u>Actual</u>	<u>FY 1986</u> <u>Estimate</u>	<u>FY 1987</u> <u>Estimate</u>
(S000s)			
<u>TELEPHONE</u>	\$2,390	\$2,970	\$3,448
FY 1987 Estimated Cost			\$3,448
FY 1986 Base			<u>\$2,732</u>
Base Shortage, Telephone			<u>\$ 716</u>
<u>POSTAGE</u>	\$1,260	\$1,335	\$1,650
FY 1987 Estimated Cost			\$1,650
FY 1986 Base			<u>\$1,335</u>
Base Shortage, Postage			<u>\$ 315</u>

Telephones - In recent years, measures have been taken to limit communications costs including purchasing previously leased telephone equipment and reviewing long distance telephone bills. These actions have resulted in an estimated savings of \$157,000 for FY 1986. Although steps have been taken to reduce costs, a projected shortage of \$716,000 is estimated for FY 1987. Projections are based on full-year funding for the Quadrangle, additional communication lines required to link automated systems, and take into account an anticipated increase in FTS long distance costs resulting from the 24-hour-per-day charging system recently implemented by the General Services Administration. Projections also include amounts needed to repair and/or replace telephone equipment now owned by the Institution (these costs were previously covered under purchase warranty).

Postage - Practices begun in FY 1983 to limit costs are continuing. These include elimination of domestic package mailing at priority rates in favor of sending packages via parcel post; and limiting international air parcel shipments and express mail service. A projected shortage of \$315,000 is estimated for FY 1987, which reflects a 20-percent rate increase granted by the United States Postal Service Board of Governors in February 1985.

RENTAL SPACE - This item consists of rental space costs of the administrative activities, managed by the Office of Plant Services (OPlantS), which are located at L'Enfant Plaza, the Smithsonian Institution Service Center at North Capitol Street, the Archives of American Art located in New York City and Boston, Massachusetts, and the facility managed by the Astrophysical Observatory in Cambridge, Massachusetts. An amount of \$349,000 is requested in FY 1987 for increased costs of leased space, of which \$119,000 is associated with facilities administered by OPlantS and \$230,000 is associated with

space administered by the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts.

Office of Plant Services - The amounts shown on the following chart reflect anticipated costs for rental space at L'Enfant Plaza, the Smithsonian Institution Service Center at 1111 North Capitol Street, and the New York and Boston offices of the Archives of American Art. Although rental costs at L'Enfant Plaza are expected to rise by \$50,000, the Federal payment will actually decline, due to an offsetting increase in the Trust fund contribution. The Trust fund payment, based in part on the amount of Mall office space occupied by the auxiliary activities, will increase as a result of additional space to be occupied by the Associate Programs in the new Quadrangle facility. The total rental costs for space at 1111 North Capitol Street will be paid from Federal resources as a result of the relocation of the Museum Shops' warehouse activities in mid-1986. Consequently, an amount of \$135,000 is required in FY 1987.

Space presently occupied by the Archives of American Art in New York no longer accommodates current needs. Severe overcrowding and potential safety hazards have necessitated a move to new space. It is essential for the constituency of the Archives that the new space be located in the area where New York's art museums and galleries are concentrated. Negotiations for alternative space in a new location are under way. Based on the proposed lease agreement, an additional amount of \$72,000 is required in FY 1987 to fund leased space for the New York operations. An amount of \$1,000 is required for the Archives of American Art's Boston location.

The Federal rental share projected for this central rental account in FY 1987 totals \$1,465,000. A sum of \$1,346,000 is available in the base for FY 1986. Therefore, an additional amount of \$119,000 is required to defray space rental costs at these locations in FY 1987.

FEDERAL RENTAL PROGRAM ADMINISTERED BY THE OFFICE OF PLANT SERVICES
FY 1985 - FY 1987

(\$000s)

	FY 1985		FY 1986		FY 1987	
	<u>Actual Cost</u>		<u>Estimated Cost</u>		<u>Estimated Cost</u>	
	<u>Federal</u>	<u>Trust</u>	<u>Federal</u>	<u>Trust</u>	<u>Federal</u>	<u>Trust</u>
L'Enfant Plaza	\$ 449	\$ 656	\$ 490	\$ 810	\$ 389	\$ 961
N. Capitol St.	729	78	804	57	939	--
Navy Yard Annex	362	--	--	--	--	--
Archives of American Art						
- New York	50	--	58	--	130	--
- Boston	6	--	6	--	7	--
Total Costs	\$1,596	\$ 734	\$1,358	\$ 867	\$1,465	\$ 961
Base	<u>1,326</u>	<u>734</u>	<u>1,346</u>	<u>867</u>	<u>1,346</u>	<u>961</u>
Surplus/(Deficit)	\$ (270)	\$ --	\$ (12)	\$ --	\$ (119)	\$ --

Smithsonian Astrophysical Observatory - An amount of \$230,000 is requested to fund the increased costs of rental space for the Astrophysical Observatory's Cambridge, Massachusetts facilities. This increase is due primarily to an economic revitalization caused by the extension of the Massachusetts Bay Transit Authority subway system from Harvard Square to Alewife Brook Parkway, which in turn provides a basis whereby building owners can increase rates charged tenants for space in this area.

Faced with this significant increase in rent expenses, it was determined that a move to a more convenient location, across the street from the Harvard College Observatory, SAO's main scientific facility, would be prudent. The cost of space at the new facility (160 Concord Avenue) is equal to that to be charged at the Alewife Brook Parkway facility and is fixed through FY 1990.

RENTAL COSTS ADMINISTERED BY THE SMITHSONIAN ASTROPHYSICAL OBSERVATORY

(\$000)

<u>FY 1986 Estimated Costs</u>	<u>FY 1987 Estimated Costs</u>	<u>Additional Funding Required</u>
\$177	\$407	\$+230

INFLATION - Resources totaling \$1,590,000 are requested to help offset the cumulative and anticipated costs to the Smithsonian as a result of estimated inflation. The amount requested represents 4.1 percent (inflation factor allowed by the Office of Management and Budget) of total nonsalary expenses for FY 1986, excluding costs of utilities, rent and the Museum Support Center move and equipment. Inflationary increases represent significant costs that have the cumulative effect of seriously eroding research, exhibitions, collections management, education and public orientation programs, as well as facilities management and administrative services. The result of inflation, therefore, is equivalent to a significant cut each year to the base resources of all the Smithsonian's approximately 65 organizational units.

Research - Cost increases have a severe effect on the Institution's ability to carry out its programs. In the area of scientific research, prices for scientific supplies generally are not increasing as dramatically as they have in the past. However, the bureaus continue to experience significant price increases for the maintenance and repair of sophisticated scientific equipment.

The effects of inflation on costs for books, journals, papers and publishing, as well as research-related items, has had an impact on virtually all of the Institution's programs. The Smithsonian Institution Libraries (SIL) purchases 78 percent of its journals from a serial subscription supplier. The price increase expected for FY 1986 from this supplier is projected to be 6 percent. The cost of series publications from other sources is expected to increase similarly. In FY 1985, the Libraries spent approximately \$388,000 for serial subscriptions. Binding of library materials is yet another area subject to inflation. The Libraries is projecting a binding budget of \$100,000 for FY 1986 and the inflation rate will not differ significantly from other years but is projected to hover around 8 percent. The final area of significant inflation costs for the Libraries is communications, specifically for on-line database access. In FY 1985, SIL spent over \$60,000 for search and cataloging services from the On-line Computer Library Center (OCLC) and \$45,000 for research databases. The divestiture of AT&T and other changes in major telecommunications networks could result in increases as high as 56 percent for the major utilities. Since SIL's contracts with OCLC and others are vital for major projects, SIL's portion of the fees for this service may very well be 10 percent higher than FY 1985 costs. SIL plans to spend about \$70,000 on services from OCLC and an additional \$55,000 for database searching for research in FY 1986.

The cost of publishing, which is essential to scientific research as well as to exhibitions and educational programs, will increase 5 to 6 percent in FY 1986 above FY 1985 prices. The following chart illustrates some further examples of price increases for items that are purchased regularly:

Research and Scientific Supplies and Contracts

<u>Item</u>	<u>FY 1985 Cost</u>	<u>FY 1986 Cost</u>	<u>Percentage Increase</u>
Beakers, glass (reg., bx. of 8)	\$579.00	\$637.00	10 percent
Film, 35mm Ektachrome ASA 400, roll	6.00	6.30	5 percent
Automatic distillation apparatus	1,835.00	1,950.00	6 percent
Annual contracts:			
Scanning electron microscope (maintenance)	8,805.00	9,475.00	8 percent
Scientific balances	1,007.00	1,083.00	7 percent
Fixed electron microscope	7,020.00	7,584.00	8 percent

Exhibitions - Inflationary increases for shipping, materials, and supplies place a severe strain on the base resources needed to maintain an active exhibition program. Over the past five years, the inflationary rate for shipping charges has been 8 to 10 percent per year. As an example, transportation of sixteen crates from Washington, D. C. to Miami, Florida, using a climate controlled van, cost the Smithsonian Institution Traveling Exhibition Service (SITES) \$2,584 in FY 1985. The same move will cost SITES \$2,800 in FY 1986 and \$3,000 in FY 1987. Great care is taken in selecting the appropriate materials for exhibition construction. Items such as wallboard, paint and plexiglas continue to witness a steady increase in cost. Certain occasions demand that special lighting be required not only as a comfort for the viewer but as a requirement for a delicate object on display. Frequently, such lamps, exhibiting particular qualities, also are expensive to purchase. The Institution spent over \$400,000 for lamps and lighting supplies in FY 1985; the price for this type item continues to increase significantly. The chart below illustrates cost increases for several items used extensively in exhibits preparation:

Exhibition Materials

<u>Item</u>	<u>FY 1985 Cost</u>	<u>FY 1986 Cost</u>	<u>Percentage Increase</u>
Wallboard, 4'x12'x 1/2"	\$ 11.76	\$ 14.30	22 percent
Tape player, Telex MC11	1,250.00	1,350.00	8 percent
Amplifier, Hafler P500K	349.00	405.00	16 percent
Paint, latex, white, (per gal.)	9.55	13.64	43 percent
Plexiglas:			
4'x8'x1/8", UF3	89.11	127.63	43 percent
4'x8'x1/4", UF3	126.94	181.12	43 percent
4'x8'x1/4", GM, clear	72.49	103.04	42 percent
Fluorescent lamps, F40CW/U/6, each	5.04	6.12	21 percent

Collections Management - Comprehensive collections management programs, essential to the preservation of the invaluable objects of the Institution, are not immune from inflationary effects and some price increases in this area are expected to be significant.

A large quantity of film is used by the bureaus for various purposes, such as photographing collections and making prints from old negatives. Over \$300,000 was expended by the Institution in FY 1985 (to four major suppliers) for camera film, chemicals and associated supplies. A list of additional samples illustrating cost increases for collections management items follows:

Collections Management Equipment and Supplies

<u>Item</u>	<u>FY 1985 Cost</u>	<u>FY 1986 Cost</u>	<u>Percentage Increase</u>
Gatorfoam, 4'x8'x1/2" (protective support for paper items)	\$29.85	\$46.00	54 percent
Straight jaw locking pliers, 7"	8.75	9.57	9 percent
Straight jaw locking pliers, 10"	9.45	10.25	8 percent
Bristle brush, 38 cm., 15" (for cleaning jars)	13.00	14.50	12 percent
Camel hair brush, 23 cm., 9" (for dusting balances)	4.50	6.50	44 percent
Scalpel blades, pkg. of 100	42.50	54.25	28 percent
Film, 64 ASA, 35 mm. (36 exposures)	4.35	4.56	5 percent
Polycontrast RC paper:			
8"x10" for prints (250 sh.)	55.34	58.10	5 percent
8"x 250' roll	63.77	66.95	5 percent
Blotting paper	.35	.53	51 percent
Drop front print box, 16"x20"x3'	2.75	3.25	18 percent
Matboard, 32"x40", 4 ply	5.00	5.25	5 percent

Facilities Management and Administration - Inflationary increases have occurred in the costs of security and safety items vital to the protection of visitors, collections and staff. It is estimated that \$461,000 will be expended in FY 1986 for security systems maintenance and repair, an increase of approximately 19 percent over the cost of similar services provided in FY 1985. Safety glasses provided to workers whose jobs require eye protection are projected to increase in cost by 8 percent in FY 1986. The Office of Protection Services expended approximately \$7,200 in FY 1985 for this item.

Charges for data processing software rental and maintenance are projected to increase 30 percent in FY 1986 over FY 1985 costs and computer training costs are expected to increase as well. The Office of Information Resource Management notes that one-week training courses that cost \$750.00 per person in FY 1985 are now costing \$895.00 in FY 1986, an increase of 19 percent. The following chart indicates price increases in the area of administrative and building maintenance:

Administrative and Buildings Maintenance Supplies and Contracts

<u>Item</u>	<u>FY 1985</u> <u>Cost</u>	<u>FY 1986</u> <u>Cost</u>	<u>Percentage Increase</u>
Plastic bags, 32 gallon	\$ 11.90	\$ 12.90	8 percent
Envelopes, 8 1/2"x11", per M	19.80	22.50	14 percent
Insecticide, aerosol 12 to cs.	41.85	52.60	26 percent
Disposable coverall, asbestos	76.00	105.00	38 percent
Vacuum, 50 leader	431.00	643.00	49 percent
Trash receptacles	8.80	12.60	43 percent
Lamps:			
Fluorescent, F40W/U/6 (40 watt)	5.04	5.96	18 percent
Incandescent, 75PAR/SP/65WM	4.66	4.92	6 percent
Annual Contracts:			
Trash disposal	38,595.00	42,455.00	10 percent
Uniform purchase and cleaning, (one museum)	7,350.00	8,420.00	15 percent
Word Processor, (one bureau)	1,420.00	1,500.00	6 percent
Pest control, (one museum)	1,881.00	2,069.00	10 percent
NL concentrate, cleaner, 55 gal.	187.00	201.00	7 percent
Combustable waste disposal, (one museum)	15,000.00	19,500.00	30 percent
Elevator maintenance	245,454.00	262,636.00	7 percent
Copier rental & repair, (one machine)	1,575.00	1,720.00	9 percent
Information Handling Service, (microfilm reference documents)	2,268.00	2,791.00	23 percent

The request of a 4.1 percent increase to nonsalary funds is a modest one. The additional proposed resources of \$1,590,000 are vital to the integrity of virtually all programs of the Institution and will assist in restoring lost purchasing power due to the effects of inflation.

OFFICE OF THE ASSISTANT SECRETARY FOR SCIENCE

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTE**	Amount	FTE**	Amount
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	9	516	1	97	-	62	-	228	3	283
FY 1986 -Base	11	488	1	100	-	1	-	158	17	675
-PL 99-177***		564								
FY 1987 Estimate	11	497	1	101	-	1	2	653	17	1,128

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	11	-	11
11 Personnel Compensation.....	346	5	351
12 Personnel Benefits.....	45	1	46
21 Travel.....	28	1	29
23 Rent, Communications & Utilities....	12	-	12
24 Printing & Reproduction.....	1	-	1
25 Other Services.....	46	2	48
26 Supplies & Materials.....	9	-	9
31 Equipment.....	1	-	1
Total	<u>488</u>	<u>9</u>	<u>497</u>

Analysis of Increase

Necessary Pay.....	6
Inflation.....	3

ABSTRACT - The Office of the Assistant Secretary for Science provides guidance, planning and overall policy direction to the Institution's scientific research efforts, and to the science-related education and exhibition activities. No program increase is requested for FY 1987. Necessary pay of \$6,000 is required for existing staff and an amount of \$3,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Assistant Secretary for Science is the principal advisor to the Secretary for the coordination and planning of the Smithsonian science activities. The 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 Environmental Research Center; the National Air and Space Museum; the National Zoological Park; the Office of Fellowships and Grants; and the International Environmental Science Program. The Office provides oversight and administers a number of Trust-funded programs designed to advance Institutional objectives in research. In addition, the Office of the Assistant Secretary for Science serves as the Smithsonian liaison to various prominent national and international research organizations and participates in many national and international boards and commissions.

This Office is responsible for developing guidelines to ensure the superior quality of research conducted at the Institution. This entails providing guidance on shifts of emphasis; recommending new areas for research; and ensuring the access of Science bureaus to state-of-the-art facilities and equipment. In addition, the Office will continue to place attention on efforts to disseminate research findings more effectively to the public and to specialized audiences.

In FY 1986, in response to various national studies, which have indicated the need to improve the quality of present pre-college science and mathematics instruction, the Institution reprogrammed a portion of the monies formerly associated with the Office of Educational Research into other educational and support activities. This decision was based on a careful evaluation of current needs and resources in the context of overall Institutional requirements. Core staff and support (two positions and \$84,000) have been retained within the immediate Office of the Assistant Secretary for Science to continue previous studies, and to incorporate the results of these studies into the planning associated with the National Science Resources Center. The Center reflects the common goal of the Smithsonian Institution and the National Academy of Sciences to provide a vehicle which will make science and mathematics instructional resources available to elementary and secondary school teachers throughout the Nation. This effort is in response to various national studies, which have indicated the need to improve the quality of present pre-college science and mathematics instruction.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by annual allotments and are used primarily to support three significant international foundations which operate field research stations used by Smithsonian staff members as well as by the world scientific community: the Seychelles Islands Foundation operates the former Royal Society station on the island of Aldabra, located in the Indian Ocean, where biological research is conducted (estimated expenditures of \$15,000 in FY 1986 and in FY 1987); the Charles Darwin Foundation operates a biological research station in the Galapagos Islands (estimated expenditures of \$30,000 in FY 1986 and in FY 1987); and the King Mahendra Trust for Nature Conservation provides scholars with access to a unique environment on the Indian sub-continent by operating a field station in the terai region (a low-land, grassy plain) of Nepal where significant ecosystem research is in progress (estimated expenditures of \$10,000 in FY 1986 and in FY 1987). Smithsonian support facilitated the continued accessibility of these areas for the research community at large. Support also is provided for the exchange of scholars and scientific information between the Smithsonian and a number of nations, principally, the People's Republic of China and Cuba (estimated expenditures of \$20,000 in FY 1986 and in FY 1987).

Restricted Funds - These consist of restricted endowments, gifts and grants from individuals, foundations and corporations which specify the use of the donation or bequest. Contributions from various sources provide support to the Galapagos Islands for the continuation of conservation and science activities (estimated expenditures of \$50,000 in FY 1986 and in FY 1987). Competitive awards are made to Smithsonian units from the Seidell Endowment Fund, administered by this Office, which provides for dissemination of scientific information (estimated expenditures of \$75,000 in FY 1986 and in FY 1987). The FY 1985 awards from the Seidell Endowment are reflected in the expenditures of the recipient organizations.

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 \$225,000 in FY 1986 and \$228,000 in FY 1987). Grant and contract support originally anticipated for programs of the National Science Resources Center (estimated expenditures of \$450,000 in FY 1986 and \$900,000 in FY 1987) will more likely be reflected in expenditures beyond 1987.

NATIONAL MUSEUM OF NATURAL HISTORY/MUSEUM OF MAN

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
			FTP**	Amount	FTP**	Amount				
FY 1985 Actual	505	20,194	-	65	-	1,791	7	1,691	36	1,949
FY 1986 -Base	510	21,104	-	10	-	226	7	1,690	37	1,754
-PL 99-177***		20,268								
FY 1987 Estimate	510	21,888	-	10	-	231	7	3,623	36	1,546

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	510	-	510
11 Personnel Compensation.....	15,340	251	15,591
12 Personnel Benefits.....	1,776	36	1,812
21 Travel.....	164	97	261
22 Transportation of Things.....	39	8	47
23 Rent, Communications & Utilities....	82	3	85
24 Printing & Reproduction.....	273	86	359
25 Other Services.....	2,115	215	2,330
26 Supplies & Materials.....	655	36	691
31 Equipment.....	660	52	712
Total	21,104	784	21,888

Analysis of Increase

Necessary Pay.....	287
Inflation.....	167
Program Funds.....	330

ABSTRACT - The National Museum of Natural History/Museum of Man (NMNH/MOM) houses one of the world's largest and most valuable compilations of scientific collections, and is actively engaged in the care and conservation of its collections, research in the natural and physical sciences, and the provision of services to the Museum's many visitors. In addition, the NMNH/MOM conducts special programs designed for various groups including the young, the aged, and the disabled. The success of these programs is given ample testimony by the nearly six million visitors who enjoyed the Museum in 1985. For FY 1987, an increase of \$330,000 is requested to conduct research on the biological diversity of South America. Necessary pay of \$287,000 is requested for existing staff and an amount of \$167,000 is sought to compensate for the effects of inflation in non-salary areas of expense.

PROGRAM - The collections of the National Museum of Natural History/Museum of Man, which contain approximately 100 million specimens of plants, animals, fossils, rocks, minerals and man's cultural artifacts, have proven essential to the Nation's scientific community by providing fundamental documentation for the study of man, and the flora, fauna and geology of our planet and outer space. In 1985, more than a half-million specimens were added to the collections through gifts, purchases, expeditions of Museum scientists, and deposits from other government agencies. The Museum is responsible by law (20 U.S.C. 59) to serve as the ultimate repository for the collections of natural history, archeology and ethnology gathered by U.S. Government agencies. In addition, NMNH/MOM provides laboratory space and research facilitation to 80 scientists in affiliated Federal agencies with natural history missions (United States Department of Agriculture, National Marine Fisheries Service, Fish and Wildlife Service, National Institutes of Health, and the United States Geological Survey).

Research - Scientific research and the publication of scientific findings are fundamental to the mission of the Museum. To this end, NMNH/MOM encourages the use of its collections for scientific pursuits. In 1985, more than 1,000 scholars from throughout the world used the Museum's collections, and over 370,000 specimens were loaned to the world scientific community.

The Museum staff of 120 scientists is engaged in hundreds of field expeditions and laboratory-based research projects. Research at NMNH/MOM results in nearly 500 books, major scientific papers and articles published every year. Recent publications include a centennial volume assembled by Museum volcanologists on the 1883 eruption of Krakatau; "Arctic," the sixth volume of the 20-volume Handbook of North American Indians; and the first modern and complete treatise on the grasses of southeastern Brazil. This three-volume treatise should prove essential to Latin American institutions concerned with agricultural development. An illustrated field guide to the ferns of the United States and Canada was published in 1985. Treating over 400 species, this guide is the first complete one of its kind in North America.

Data amassed by the Museum often proves essential to the research of scientists outside the Institution. Since 1972, the Museum's Marine Mammal Salvage Program has been collecting data and specimens of marine mammals stranded on the U.S. Atlantic coast. This project has yielded an enormous amount of data on many species of whales and porpoises. Specifically, this data pertains to migratory patterns, the size of populations, and eating and breeding habits. In 1984, a team of scientists from U.S. Federal agencies and universities, using computerized statistics and specimens from the Museum, hypothesized that whales, dolphins and other marine mammals have sensitive magnetic systems which enable them to navigate ocean "highways" guided by magnetic lane markers in buried rocks, and that coastal magnetic anomalies often result in mass beachings of the animals. If this theory is correct, the findings may eventually enable scientists to predict whale migratory routes. With this information, it is hoped that scientists will eventually be able to locate the animals at sea and redirect schools to avoid mass strandings.

Museum researchers also provide important assistance to the international scientific establishment. For example, erosion of the Nile Delta has increased alarmingly since the construction of the Aswan High Dam. This bodes ill for Egyptian agricultural and fishery production, and for the operation of the Suez Canal. In 1984 and 1985, a Museum oceanographer, in cooperation with the Egyptian Coastal Research Institute, began taking soil borings in the Lake Manzeleh and eastern Delta area to measure past coastal change. The data amassed will be utilized by the Egyptian government to intervene and minimize future damage to the coast.

A base increase of \$260,000 was received in FY 1985 and an additional amount of \$140,000 in FY 1986 was received to begin a long-term program of upgrading and replacing critically needed scientific equipment. In FY 1985, NMNH/MOM replaced a defunct

Scanning Electron Microscope (SEM) with a new higher resolution SEM. An X-ray diffractometer system, which facilitates basic structural research on finely crystalline materials, was purchased. In addition, many less expensive pieces of equipment have been replaced under this program.

In FY 1985, funding also was provided for two important research projects. An increase of \$175,000 is enabling the Museum to expand its comprehensive survey of the barrier reef ecosystems from Carrie Bow Cay, Belize, to other Caribbean sites. Reefs off the Yucatan coast of Mexico, Barbados, Martinique, Guadeloupe, and southern Florida are now under consideration. A second increase of \$175,000 is funding a major new project in global volcanism. Tectonic and chemical information will be added to the Museum's existing global volcanism data banks. This information will then be made directly accessible to scientists at the Smithsonian and elsewhere through a microcomputer network.

Collections Management - Collections Management underpins the Museum and its functions. New acquisitions and care of the old insure the increasing importance of the collections. In 1985, the NMNH/MOM purchased one of the premier collections of New World tropical butterflies. This acquisition, containing more than 100,000 specimens, including many rarities and new species and subspecies, is of inestimable scientific value. Another unique research collection acquired in 1985 consists of 5,000 specimens of Dominican amber containing 10-million-year-old fossil insects. The rarity, numbers, quality of preservation, and diversity of the New World fossil insect fauna trapped and preserved in these specimens of fossil resin are unmatched in any museum or private collection. The study of this collection should provide many new insights into insect evolution. Integrating this material, and the more than 589,000 other specimens acquired in 1984, into the main body of the Museum collection will be one of the major tasks of the Museum's Collections Management staff.

As the irreplaceable collections of the Museum age, increasing attention is being devoted to managing and conserving these collections to prevent a diminishment in their scientific or exhibit value. This process is being greatly facilitated by the inventory of Museum holdings and the pending move of major portions of the collections to the Museum Support Center in Suitland, Maryland. Work is under way in each of the Museum's seven scientific departments to document materials for the move, to reconcile move records with the inventory records, and to clean and prepare specimens for relocation.

Outreach - Among the important 1985 Evans Gallery shows was "Aditi: A Celebration of Life," which featured 1,500 objects of folk art from the many cultures of India and demonstrations by Indian artists and artisans. Produced in conjunction with the Smithsonian's Festival of American Folklife, "Aditi" was cited by The New York Times as one of the most memorable exhibitions of the year.

A living microcosm of the Maine coast, complete with mussels, lobsters, kelp, and electronically and mechanically controlled waves and tides, opened in 1985 in the Museum's Sea Life Hall. The microcosm was developed by the same Smithsonian scientific team that five years ago developed the Museum's living coral reef microcosm. Located side-by-side, the two 3,000-gallon aquarium systems serve a dual purpose: as exhibits of living ecosystems, they demonstrate to the public the dynamics of contrasting warm and cold water coastal environments; and as research laboratories, they aid Museum scientists working to improve our understanding of natural marine environments and to develop techniques for farming the sea and purifying polluted waters.

To celebrate its 75th anniversary, the Museum opened "The Magnificent Voyagers" in November 1985. This major, year-long exhibition commemorates the U.S. Exploring Expedition of 1838-1842, which was led by Lieutenant Charles Wilkes. The Wilkes expedition mapped and surveyed the South Pacific and confirmed, for the first time, the

existence of Antarctica as a continent. This exhibition is particularly appropriate as the vast material assembled during the expedition formed the nucleus of the Smithsonian's scientific collections. To supplement the exhibition, the Museum's Office of Education is presenting a variety of related activities including a symposium, scholarly and popular lectures, films, dance performances and an educational packet. The exhibition will travel to major museums and historical societies across the United States after its closing in Washington, D. C.

The Museum's Education Office and its staff of about 300 volunteer docents continue to be very successful in reaching a large number of visitors with a variety of tours and learning experiences. During the past year, a new series of instructional charts on plant and animal identification was initiated. These posters are of great use in classrooms, clubs, nature centers, libraries and homes. Furthermore, the Office held a Natural Science Symposium for 400 greater Washington metropolitan area high school science students and their teachers in 1985. The program featured a seminar by guest speakers, discussion sessions, films, and tours behind the scenes to expose the students to state-of-the-art research in natural history.

EXPLANATION OF PROGRAM INCREASE - Research (\$330,000) - Funding is sought in FY 1987 to expand Smithsonian research on biological diversity and on the roots of human culture in South America. The biological diversity of the earth is diminishing at an exponentially increasing rate. This alarming trend is particularly evident in the tropics where plant and animal life are the richest. A series of multidisciplinary and integrated biological diversity studies will be initiated to collect specimens and record the coexistence of species in the arc along the western and northern Amazon Basin, along the flank of the Andes and eastward across the land of the Tepuis and throughout the Guianas where accumulating evidence indicates that the major center of biological diversity on Earth is to be found. It is expected that thousands of new plant species, hundreds of new animal species and tens of thousands of new insect species will be discovered. These studies will result not only in greater understanding of biological diversity, but in the potential use of hundreds of these new organisms as biological control agents, food for indigenous peoples, and germplasm resources. The studies also will explore the origin of human culture and the towering influence of the physical environment upon the evolution of human culture in this region of South America.

To better ensure the success of this endeavor, the requested funding of \$330,000 will be devoted to establishing a well coordinated and technically advanced research effort. Teams of researchers will document activities and analyze data derived from the collections of the Museum to produce scholarly natural history base-line books and technical publications (\$75,000); and to develop and promote international cooperation between Smithsonian and tropical Latin American scientists, which will include the establishment of an International Symposia series on the biological diversity of tropical systems (\$96,000). Support funding requested will fund fellowships for students to participate in the research effort (\$30,000); travel to collect specimens and conduct field-based research in South America as well as to other museums to study historical materials (\$90,000); and transportation of specimens, basic supplies, and equipment (\$39,000).

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources, including allotments, the Museum's share of net proceeds from the Museum shop, cafeterias and other receipts such as sale of exhibit brochures, the "By-Word" exhibition explanation system, and tuition reimbursement grants from local universities for courses taught by Museum staff. Program allotments provided support for the Wetmore research project on birds (actual expenditures of \$29,000 in FY 1985), and events related to the opening of new exhibitions. Special Purpose funds are used to help finance exhibit hall brochures, field research, audio-visual equipment for exhibit halls,

training for anthropology students, research in paleontology, and support for the Anthropological Archives.

In addition, funds from the Institution's Collections Acquisition, Scholarly Studies and Educational Outreach Program, Research Opportunities Fund, Smithsonian Society, and the Special Exhibition Fund support research, education and exhibition projects. In FY 1985, the total funding from these programs amounted to \$1,514,000, providing various levels of support for over 100 projects. Expenditures under these programs have not been recorded for FY 1986 and FY 1987 which explains the variance in totals shown between FY 1985 and the subsequent two years.

Restricted Funds - These are in the form of restricted endowments which specify the use of the donation or bequest and of gifts and grants provided by individuals, foundations or corporations for specific purposes. Generally, the funds provide support for a particular exhibition or research project. Among the restricted funds are monies for field based and laboratory research on the physical and chemical mechanisms underlying geologic and cosmologic processes (estimated expenditures of \$53,000 in FY 1986 and \$50,000 in FY 1987), and biological studies of mangrove swamps (estimated expenditures of \$26,000 in FY 1986 and in FY 1987). Other funding is available for ethnological research among the Canela Indians of Brazil (estimated expenditures of \$37,000 in FY 1986 and \$40,000 in FY 1987); for support of the marine mammal alert events program (estimated expenditures of \$20,000 in FY 1986 and \$21,000 in FY 1987); support of the graduate fellowships for marine systems research (estimated expenditures of \$31,000 in FY 1986 and \$26,000 in FY 1987); and support for threatened Latin American plants (estimated expenditures of \$30,000 in FY 1986 and \$35,000 in FY 1987). Gifts have been received and continue to be sought for upgrading the Gem and Mineral Hall. The Museum received funds for the "Man Makes Culture Makes Man" exhibition (estimated expenditure of \$77,000 in FY 1986). Funds were received toward production of "The Magnificent Voyagers" exhibition which features materials gathered by the Wilkes Expedition (estimated expenditure of \$31,000 in FY 1986), and "The Nature Paintings of Robert Bateman" exhibition (estimated expenditures of \$11,000 in FY 1986 and \$63,000 in FY 1987). The Museum continues to seek support from private sources for its planned exhibitions. Currently, funds are being sought for four temporary shows: "Crossroads of Continents" (estimated expenditures of \$255,000 in FY 1986 and \$500,000 in FY 1987); "Ebla to Damascus" (estimated expenditure of \$258,000 in FY 1987); "Man, Music and Motion" (estimated expenditure of \$850,000 in FY 1987); and "Caesarea by the Sea" (estimated expenditure of \$100,000 in FY 1987), all to be installed in the Evans Gallery.

In FY 1982, the Museum undertook the management of the Smithsonian Marine Station at Link Port, Florida (formerly called the Fort Pierce Bureau), as an integral part of its marine research program. The Hunterdon Endowment is used to support oceanographic research at this facility, located on the central east coast of Florida, a biotic and oceanographic transitional zone offering an unrivaled opportunity for study of a unique complex of both temperate and tropical plants and animals. Research here focuses on the life history, systematics and ecology of a wide spectrum of plant and animal marine life. Contributing to the research efforts are a resident scientist, Smithsonian visiting scientists, postdoctoral fellows and numerous national and international visiting investigators (estimated expenditures of \$480,000 in FY 1986 and \$493,000 in FY 1987). Support also is provided by the Seward Johnson Endowment Fund for operation and maintenance of the Johnson-Sea-Link submersible program conducted at the facility by the Harbor Branch Foundation (estimated expenditures of \$525,000 in FY 1986 and \$472,000 in FY 1987).

The Museum also has several other restricted funds, each one with anticipated expenditures of less than \$20,000 in FY 1986 and FY 1987.

Federal Grants and Contracts - These funds are provided by various Federal agencies and departments for special projects which can be conducted at the Museum because of its

unique scientific expertise in certain fields. Examples of Federal contract support are an Agency for International Development grant for the study of aquaculture farming in the Caribbean (estimated expenditures of \$752,000 in FY 1986 and \$283,000 in FY 1987); projects funded by the United States Army to conduct basic biosystematic research on mosquitoes that are of medical significance overseas (estimated expenditures of \$91,000 in FY 1986 and \$87,000 FY 1987); creation of a computer data file on the medical importance, distribution, ecology and collection of mosquitoes (estimated expenditures of \$115,000 in FY 1986 and \$121,000 in FY 1987); the "Tumor Registry in Lower Animals" project funded by the National Cancer Institute that facilitates the study of neoplasia and related disorders in invertebrate and cold-blooded vertebrate animals important in human biomedical research (estimated expenditures of \$359,000 in FY 1986 and \$430,000 in FY 1987); a project funded by the National Science Foundation to process and distribute polar biological specimens and data (estimated expenditures of \$170,000 in FY 1986 and \$233,000 in FY 1987); and funds to curate material collected during the Bureau of Land Management's outer continental shelf biological sampling program in the Atlantic and Gulf regions (estimated expenditures of \$166,000 in FY 1986 and \$180,000 in FY 1987).

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
			FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount
FY 1985 Actual	98	8,446	43	2,310	33	1,718	1	268	104	12,598
FY 1986 -Base	97	8,696	43	2,377	2	538	1	279	102	12,058
-PL 99-177***		8,349								
FY 1987 Estimate	97	9,291	43	2,467	2	594	1	194	96	12,147

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	97	-	97
11 Personnel Compensation.....	4,328	47	4,375
12 Personnel Benefits.....	463	7	470
21 Travel.....	111	5	116
22 Transportation of Things.....	40	2	42
23 Rent, Communications & Utilities....	406	257	663
24 Printing & Reproduction.....	55	2	57
25 Other Services.....	1,469	200	1,669
26 Supplies & Materials.....	256	10	266
31 Equipment.....	<u>1,568</u>	<u>65</u>	<u>1,633</u>
Total	<u>8,696</u>	<u>595</u>	<u>9,291</u>

Analysis of Increase

Necessary Pay.....	54
Inflation.....	161
Program Funds.....	150
Rent.....	230

ABSTRACT - The Smithsonian Astrophysical Observatory (SAO), located in Cambridge, Massachusetts, is engaged in basic astrophysical research in the following interrelated disciplines: atomic and molecular physics, high energy astrophysics, optical and infrared astronomy, planetary sciences, radio astronomy and geoastronomy, solar and stellar physics, and theoretical astrophysics. SAO cooperates in its scientific programs with the Harvard College Observatory (HCO), and together the two observatories form the Center for Astrophysics (CfA). SAO also operates the Fred Lawrence Whipple Observatory (FLWO) on Mt. Hopkins, Arizona, the site of the Multiple Mirror Telescope (MMT), a joint project with the University of Arizona.

Scientific data are obtained from laboratory experiments conducted in Cambridge; telescopic observations, especially at FLWO; and space observations utilizing satellites, rockets and balloons. The reduction and analysis of these data are performed mostly with SAO's computer systems in Cambridge. The resulting astrophysical information and scientific interpretations are published in scientific journals and reports. These results also are conveyed to the scientific community and to the public through lectures and more general articles and books. For FY 1987, an increase of \$150,000 is requested to initiate instrument development in the new field of submillimeter-wave astronomy. Necessary pay of \$54,000 is required for existing staff and an amount of \$161,000 is sought to compensate for the effects of inflation in nonsalary areas of expense. A further amount of \$230,000 for increased rental costs is being requested here and justified in the Uncontrollable Increases Section of this budget.

PROGRAM - Founded in 1890 by Samuel Pierpont Langley, the third Secretary of the Institution, the Smithsonian Astrophysical Observatory has become a leading international center for astrophysics. Past achievements include Langley's own pioneering studies of solar terrestrial relationships; the establishment of a worldwide satellite tracking network at the dawn of the Space Age; the development of the Multiple Mirror Telescope; and the landmark survey of galactic redshifts. SAO's current leadership in astrophysics is based in part on its diversified approach to research, including the varied interests of the staff and its technological capabilities to create new research tools. Although the research programs are divided among seven disciplines, efforts are integrated so that the results in one field often complement those in another.

Because of its location outside the Washington metropolitan area, SAO has several administrative support units funded by Federal funds and by indirect charges to grants and contracts. In addition, SAO maintains an engineering department, a computer facility, and an extensive astronomical library.

The major accomplishments of SAO are published in scientific journals by individual staff members. Approximately 200 such papers appear each year. A brief summary of the research conducted in each of SAO's seven science divisions follows. In each case, the first paragraph describes the research program in general terms with the subsequent paragraphs describing recent accomplishments.

Atomic and Molecular Physics - Most techniques for interpreting observations of astronomical objects require quantitative information about atomic and molecular processes. Accurate determination of physical conditions in these objects depends directly upon the precision and completeness of the underlying atomic and molecular data. The major objective of this research is to obtain such data from combinations of laboratory and theoretical studies.

Laboratory measurements were completed on the effect of atmospheric pressure on the millimeter-wave radiation of ozone. These results, when combined with ground-based measurements of radiation from ozone in the stratosphere, allow the distribution of ozone with altitude above the Earth to be deduced. Ozone was chosen as the first test gas in the laboratory program because of the critical role it plays in sustaining life on Earth. Other trace gases important in maintaining the chemical balance will now be studied. For example, work on hydrogen peroxide is planned for FY 1987.

Large-scale computing is fundamental for progress in theoretical studies in atomic and molecular physics. During FY 1985, substantial progress was made in meeting SAO's computing needs: an IBM 4381 computer was installed for making calculations in quantum chemistry and effective ways were established to interact with national supercomputers. These new computer resources should enable SAO to investigate a number of systems containing many atoms which are of importance for an understanding of planetary atmospheres and the interstellar medium.

High Energy Astrophysics - Research in high energy astrophysics is concentrated on those astronomical objects that emit a substantial fraction of their energy in X-rays. Since X-rays are absorbed by the Earth's atmosphere, observations must be made from balloons, rockets, the Space Shuttle, or satellites. Scientific studies are directed at a broad range of topics including the processes for generation of radiation in the X-ray band, the amount of matter in the universe, and the origin, development and ultimate fate of the universe. SAO scientists and engineers also are developing new instrumentation to carry out future space science missions.

Analysis of data from the HEAO-2 (Einstein Observatory) satellite revealed the existence of hot, gaseous, X-ray emitting haloes associated with many elliptical and other early-type galaxies. Using this X-ray emitting gas to trace the underlying distribution of matter has led to the important conclusion that many of these galaxies have very massive haloes composed of dark matter of an unknown nature. This work resulted in the award of the first Rossi Prize by the American Astronomical Society to two SAO scientists.

The National Aeronautics and Space Administration is supporting SAO's development of a high resolution camera, as well as SAO's scientific guidance for an imaging telescope, both proposed for the Advanced X-ray Astrophysics Facility (AXAF), a great observatory to be placed in space in the 1990s to scan the X-ray sky as the Hubble Space Telescope will scan the optical sky. SAO scientists also are developing a novel Normal Incidence X-ray Telescope, for high resolution imaging of the solar disk from a sounding rocket, and an X-ray balloon experiment, called the Energetic X-ray Imaging and Timing Experiment (EXITE), to make high-sensitivity measurements of unusual sources of X-rays and gamma-rays in the universe.

Optical and Infrared Astronomy - Research in optical and infrared astronomy concentrates on extragalactic and galactic astronomy, with special emphasis on studies of clusters of galaxies, clusters of stars, and the formation and evolution of stars. In support of this and other research, SAO operates the Fred Lawrence Whipple Observatory (FLWO) on Mt. Hopkins, Arizona, the site of the Multiple Mirror Telescope (MMT), operated jointly with the University of Arizona.

In a study of fundamental importance, SAO scientists showed that our understanding of the large-scale structure of the universe has been flawed by errors in the classic map of how faint galaxies are distributed on the sky. Much of the theoretical work based on the older data, obtained by others, may prove to be invalid, with important consequences for theories of the early history of the universe. SAO scientists initiated a major new survey of galaxies to address this problem, using modern CCD (charge-coupled devices) detectors and digital image processing techniques.

A systematic survey of the distances to galaxies led to the discovery of a new gravitational lens in the Constellation Pegasus which is apparently serving as a "cosmic magnifying glass" to greatly enhance the image of a much more distant quasar. According to Einstein's General Theory of Relativity, if a massive object is positioned between an observer and a distant quasar, the light from that quasar will be deflected, or bent, by the object's gravitational field and will form one or more images. In this case, a team of SAO scientists using both conventional instruments and the MMT identified the lens as a 15th magnitude spiral galaxy on a line directly between the Earth and a previously unidentified quasar at an apparent distance of 1,800 Megaparsecs (about 1 billion light years).

The Small Helium-Cooled Infrared Telescope (IRT) -- a joint project of SAO, the University of Arizona, and the Marshall Space Flight Center -- orbited the Earth as one of 13 experiments on Spacelab II aboard the Space Shuttle in July 1985. The telescope made an all-sky survey and searched for new sources of diffuse infrared radiation.

In FY 1985, work was completed on the first of the MMT mirrors to be refinished to the much finer optical quality required to take full advantage of the excellent characteristics of Mt. Hopkins for astronomical imaging. The rest of the six primary mirrors will be refinished sequentially.

The scientific activities of the FLWO are supported by administrative, motor pool, and public information services located in a rather dilapidated base camp in Amado, Arizona, 18 miles away. Site selections for a new base camp have been made and an architectural firm is preparing design, engineering, and environmental impact studies. Legislation to authorize construction of this new base camp has been approved by the House of Representatives (H.R. 1483) and is pending in the Senate (S. 581).

Planetary Sciences - Research in Planetary Sciences strives to understand the planets, satellites, and small bodies of the solar system; and the processes that created them from gas and dust billions of years ago. Optical observations of newly discovered, faint, or unusual minor planets and comets are performed at the Oak Ridge Observatory in Massachusetts and are closely coordinated with the International Astronomical Union's Minor Planet Center and Central Bureau for Astronomical Telegrams, both operated by SAO.

Preliminary computer simulations by SAO scientists of the infall of interstellar gas and dust that gave rise to the solar system suggest that the millimeter-size spherules abundant in certain meteorites were produced when infalling aggregations of presolar dust were heated sufficiently by aerodynamic drag to melt. If supported by more detailed analysis, this idea may provide the solution for this nearly century old puzzle.

One SAO scientist participated this year in an expedition to Antarctica to collect geologic samples across the contact zone between sediments of the Cretaceous and Tertiary eras of the Earth's history and to analyze these samples for meteoritic elements and other types of evidence that would indicate whether a gigantic impact event occurred that might have extinguished the dinosaurs.

Radio Astronomy and Geoastronomy - Research in radio astronomy concentrates on understanding the structure, evolution, sources of energy, and ultimate fate of radio wave-emitting astronomical objects distributed throughout the universe. SAO scientists also are pioneering in the use of radio astronomy techniques to measure the contemporary drifts among the continents. Other scientists are developing atomic clocks, testing the theory of general relativity, and formulating uses for long tethers in space.

Very-long-baseline-interferometry (VLBI) observations of molecular water-vapor maser sources associated with star-forming regions in our galaxy allowed SAO astronomers to determine precisely the distances to these young objects and, by implication, to calculate more accurately the size of our galaxy, a basic parameter of the universe.

Using radio tracking of the Pioneer Venus Orbiter, SAO scientists mapped small irregularities in the gravitational potential of Venus. These irregularities were compared to the topography on Venus to determine the subsurface structure of the planet. Since Earth resembles Venus more than any other planet, an understanding of the near surface structure of Venus helps both to develop and to test theories that describe such important terrestrial phenomena as earthquakes, volcanoes, and the formation of mineral deposits.

A new generation of satellite-borne maser "clock" is under development for use in space and for sub-nanosecond worldwide timing. The present stability of these clocks is equivalent to the loss of no more than one second in 100 million years. Operating hydrogen maser clocks at temperatures very near absolute zero suggests that the stability could be improved one hundredfold. SAO has nearly completed development of the first such maser clock.

Solar and Stellar Physics - Research in solar and stellar physics is directed principally towards understanding the physical processes operating in the Sun and stars. Stars like the Sun are studied in order to increase understanding of the dependence of their properties on age, on composition, and on their physical associations in pairs and in groups.

A new computer program was completed by SAO scientists to analyze the outflow of mass from giant stars that are observed to be losing mass about ten million times faster than our Sun. In the coming years, this program will be used to analyze observations taken at the FLWO and by satellites in space.

New instrumentation and diagnostic techniques also are being developed to determine the physical processes responsible for producing the solar wind. SAO's ultraviolet coronal spectrometer, which has already provided the first measurements of temperature and outflow velocity in the solar wind source region, is now being prepared for deployment and retrieval by the Space Shuttle in 1986. SAO also is helping to define the characteristics of an instrument for the European Space Agency's Solar Heliospheric Observatory; measurement of the solar wind source region with this instrument, which SAO hopes to build, should provide a link between traditional observations of the solar corona and in situ measurements of the solar wind far from the Sun.

Theoretical Astrophysics - Theoreticians study astronomical systems by means of physical analysis and mathematical modeling. A broad range of topics are investigated, including the interiors of neutron stars, the properties of atoms and molecules in interstellar space, the formation of spiral structure in galaxies, high temperature plasmas, and the formation of planets in the early solar system.

One noteworthy example of theoretical research concerned globular clusters, those beautiful astronomical objects that contain about a million stars in a roughly spherical shape. Relatively sparse in their outer layers, they become quite dense in the center. In fact, the gravitational encounters between stars at the center should lead to "core collapse." Since many of the clusters now seen must have already undergone collapse, some unknown phenomenon may prevent real catastrophe. Until now it has been impossible to describe theoretically even how a cluster should look after collapse; but a computer simulation of both collapse and post-collapse phases was devised this year by an SAO scientist. This theoretical model is consistent with the observed properties of clusters and should help future research focus on the mysterious factors that allow clusters to survive this cosmic cataclysm.

Education Program - SAO conducts regular programs of public information and education, including popular lectures, "Observatory Nights for the Public" in Cambridge, and guided bus tours of the Whipple Observatory in Arizona.

EXPLANATION OF PROGRAM INCREASE:

Research: Submillimeter-Wave Astronomy (\$150,000) - For FY 1987, an increase of \$150,000 is requested to initiate instrument development in the new field of submillimeter-wave astronomy. The last frontier for ground-based astronomy consists of observing the skies with telescopes sensitive to submillimeter waves, light with wavelengths between those of infrared and radio waves. The formation of stars and planetary systems and the puzzling processes taking place in the cores of galaxies and quasars can best be studied at submillimeter wavelengths. Technology has only just advanced to the point where two critical requirements for such telescopes can be met: (1) large and precisely finished surfaces to focus the submillimeter waves effectively and (2) sensitive and efficient devices to detect the focused submillimeter waves.

The development SAO is now proposing will allow it to use existing telescopes to

work at submillimeter wavelengths. Observations at submillimeter wavelengths made on such telescopes will be of unquestioned scientific importance. Moreover, this new field affects research programs in all of SAO's divisions, and scientists from each would be involved in the research made possible by this proposed development.

Specific scientific projects that would be possible include the study of: (1) the composition and evolution of the surfaces of the terrestrial planets, as well as the composition of, and, to a certain extent, the chemical processes taking place in, planetary atmospheres. In addition, the abundance of molecular constituents in the central regions of comets could be probed effectively; (2) the formation and interaction of molecules in interstellar space under conditions not achievable in terrestrial laboratories. The insights gained are not only of interest for understanding the birth of stars and the characteristics of the intersellar medium, but could conceivably lead to important chemical applications on earth; (3) the distribution of dust in galaxies and the role of such dust in star formation. Because of its low temperature, dust is especially amenable to study at submillimeter wavelengths; (4) the structure of galaxies through the measurement of the distributions of certain molecules that seem to trace out the locations of most of the mass in galaxies; and (5) quasars whose sources of enormous energy remain an outstanding enigma. Submillimeter observations can penetrate deeply into the heart of quasars and provide powerful discriminants to distinguish among various theories proposed to explain the source of the power radiated by these objects.

Greater return from submillimeter observations will be achieved when they can be made at far higher angular resolution so as to reveal enormously more detail than the existing or planned single telescopes will allow. In a separate, but related, initiative SAO wishes within the next few years to take this next step toward significantly increased resolution by beginning construction of a pioneering array of submillimeter telescopes designed to achieve arcsecond resolution--more than a factor ten greater than achievable with single telescopes.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Unrestricted general funds come primarily from overhead charged on contracts and grants. These funds are used to support administrative positions and some of the other administrative costs of SAO. Special Purpose funds come primarily from two sources: external users of SAO's Computer Center and the Institution's Trust funds, with the vast majority being from the latter. The former may be used for research purposes and for computer related purchases in future years. By far the largest special purpose fund is the Fellowships and Visiting Scholars program (estimated expenditures of \$330,000 in FY 1986 and \$400,000 in FY 1987).

In FY 1985, funds from the Institution's Collections Acquisition, Scholarly Studies and Educational Outreach Program (\$198,000), Smithsonian Awards (\$3,000) and Research Opportunities Fund (\$43,000) were used to support various research projects. Also included are expenditures from SAO computer cost centers (\$1,019,000). Expenditures for these programs and services have not been recorded for FY 1986 and FY 1987 which explains the difference between those years.

Restricted Funds - Restricted funds consist of restricted endowments, gifts and grants from individuals, foundations, organizations or corporations which specify funds for a particular project. Restricted Endowment Funds provide support for studies in various physical sciences (estimated expenditures of \$111,000 in FY 1986 and \$73,000 in FY 1987). A grant from the Chemical Manufacturers Association assists SAO in studies of the chemical balance of halogens and ozone in the stratosphere (estimated expenditures of \$104,000 in FY 1986 and \$102,000 in FY 1987).

Federal Grants and Contracts - SAO receives a majority of its funding through Federal agency grants and contracts for research. This research is often carried out in

cooperation with both governmental and academic institutions in the United States and abroad. Funding is received from Federal agencies, such as NASA, the Naval Research Laboratory and the Air Force, to support specific projects in areas of SAO's expertise (estimated expenditures of \$12,058,000 in FY 1986, and \$12,147,000 in FY 1987).

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
FY 1985 Actual	88	3,554	2	148	-	481	-	338	-	4
FY 1986 -Base	87	3,798	2	124	-	211	-	339	-	-
-PL 99-177***		3,643								
FY 1987 Estimate	87	4,243	2	133	-	233	-	330	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	87	-	87
11 Personnel Compensation.....	2,314	53	2,367
12 Personnel Benefits.....	516	7	523
21 Travel.....	70	33	103
22 Transportation of Things.....	15	18	33
23 Rent, Communications & Utilities....	28	1	29
24 Printing & Reproduction.....	38	31	69
25 Other Services.....	238	124	362
26 Supplies & Materials.....	326	65	391
31 Equipment.....	253	113	366
Total	<u>3,798</u>	<u>445</u>	<u>4,243</u>

Analysis of Increase

Necessary Pay.....	60
Inflation.....	40
Program Funds.....	345

ABSTRACT - The Smithsonian Tropical Research Institute (STRI), located in the Republic of Panama, serves as the Nation's leading international center devoted to research in tropical biology and conducts basic research in ecology, behavior, and evolution. These research programs are complemented by carefully selected applied studies with a common theme of "Alternatives to Destruction" (providing an environmentally and economically valid substitute for the traditional clearing of forest for conventional agriculture). In addition to STRI staff, scientists throughout the world researching tropical biology use STRI facilities for their fieldwork. Audio-visual and other educational materials on conservation and environmental education, developed by STRI, are distributed to both the local community and internationally. Under the terms of the Panama Canal Treaty of 1979, STRI has been designated the custodian of the Barro

Colorado Nature Monument, a 12,000-acre tropical nature preserve (consisting of Barro Colorado Island and five adjacent peninsulas in Gatun Lake) located in the Panama Canal. Other STRI research facilities include a marine laboratory at Naos Island (on the Pacific Ocean); a marine laboratory at Galeta Point and a field station in the San Blas Islands (on the Atlantic Ocean); and a research library, laboratories, conference and study facilities, and administrative headquarters in Panama City. For FY 1987, an increase of \$345,000 is requested to expand STRI's research in tropical forest biology. Necessary pay of \$60,000 is required for existing staff and an amount of \$40,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Smithsonian Tropical Research Institute is the Nation's leading international center for the advancement of basic research in tropical biology. STRI performs at least four major functions as it strives to expand the horizons of tropical biology. Its professional staff conducts fundamental research on the ecology, evolution and behavior of tropical plants and animals, including mankind; provides major facilities for the international scientific community to study both terrestrial and marine tropical biology; is deeply committed to environmental education and to conservation of tropical ecosystems; and has the responsibility to protect and manage the Barro Colorado Nature Monument.

The accomplishments of STRI's programs in fundamental research, logistical support to visiting scholars and students, and conservation and environmental education continue at a high level. Current research projects are summarized in an annual report, STRI Contributions to Research, which is distributed to appropriate organizations throughout Panama and the rest of the world. During FY 1984 and early FY 1985, the most significant accomplishments and major program activities have been:

Systematics - STRI has undertaken the study of both pollen and seedling floras for Barro Colorado Island. The pollen flora provides an unique opportunity to reconstruct past history from pollen records in lakes and bogs, and to study bees and the pollen they collect. A comprehensive seedling flora will enable STRI researchers to assess directly recruitment to shrub and tree populations, a background that is essential to development of sound forestry practice in tropical forests.

Biological Diversity - Many STRI research programs are directed toward documentation of patterns in biological diversity and the processes that generate those patterns. In one such program, the behavioral diversity of squid was shown to involve ten times more displays than most birds and mammals. The diversity of reproductive systems is the focus of many researchers at STRI. The study of coral reef fishes at the San Blas Station shows a wealth of innovative solutions to ensure successful reproduction. One species of fish, for example, maintains functional organs of both sexes all of its life. They spawn in pairs with the members of a pair exchanging sex roles in successive spawning bouts.

Another project has shown that a bat is attracted to the call of the male katydid but, instead of eating the calling male, it eats the females which the male attracts. By not eating the male, the bat may ensure a supply of females attracted to the calling male. Other katydids have evolved various ways to attract mates without being eaten; they may call rarely, call from places inaccessible to bats, or attract mates by vibrating their perches in a manner that is sensed by members of its own species but not by bats.

In another study, the pollen diet of honeybees has been investigated as part of the study of the impact of invading feral "Africanized" honeybees on native bee communities in Panama. This invasion of Africanized honeybees has now reached the United States and this research may help to minimize the bees' potentially profound impact on American agriculture.

Rhythms of Tropical Communities - In addition to recognition of the biological diversity of the tropics, it is important to understand how that diversity fits together in the life of the community as a whole. Seasonal rhythms of many forest organisms are tied to the cycles of the wet and dry season. Other cycles, although less obvious, are also important in marine communities (such as tidal and upwelling).

For numerous plants and animals, the seasonal cycles of reproduction and migration are affected by wet and dry seasons. Plant seeds, dispersed by the wind, ripen during the dry season when winds are the strongest. Iguana hatchlings emerge from their sandy nests at the beginning of the rains when new leaves are most abundant. Even plants on coral reefs have seasonal rhythms which reflect the seasonal distribution of exposures to low tide and wind. Elucidation of these rhythms is a central goal of STRI for the development of rational sustained yield exploitation of tropical resources.

Geographical Comparisons - The study of organisms and their adaptations must also be put in the context of comparable communities elsewhere. Do tropical communities in Malaysia exhibit the same seasonal rhythms and adaptations as those in Panama? Why is the diversity of tree species so much higher in Malaysia than in Panama? How do these differences affect animal communities and what are their consequences for managing forests for wood production or as nature preserves? Answers to these and many other questions are at the heart of STRI research goals, and communicating the results of this work is the primary function of the education and conservation programs.

Long-term Research and Biological Catastrophes - Solutions to the many biological problems of human societies in the tropics require long-term studies. STRI's permanent location and continuing research efforts in the tropics contribute toward the search for those solutions. Indeed, as a result of long-term research programs, STRI has come to recognize the significance of the catastrophes to which tropical communities are sometimes subjected. Recent examples include the devastation of coral populations following the overheating of surface waters of the eastern Pacific during the El Niño year of 1983. Mortality in many plants and marked changes in insect and bird populations were also attributed to the same El Niño. The devastation of a sea urchin population throughout much of the Caribbean due to an epidemic illustrates that marine organisms can experience diseases of plague proportions.

Role of Mankind in Tropical Habitats - Research programs at STRI seek to determine human influences in the tropics. Pottery fragments deep in forest soils show early presence of human populations at low densities but lack of fragments in surface layers suggest that some forest on Barro Colorado Island may be older than previously thought. Radiocarbon samples will precisely determine the age and duration of prehistoric occupations. Extension of this work will enable researchers to set the forest community of Barro Colorado Island in its proper historical context.

Studies of rainfall patterns in the last 100 years clearly show a significant decline in annual rainfall in central Panama. If the decline is attributable to human activities such as deforestation, it suggests an important message about conservation and the survival of mankind in tropical regions. Destruction of tropical forests may be slower than desertification in the Sahel but will, in the long-term, be no less devastating to human societies throughout the world.

A series of studies with the common theme of "Alternatives to Destruction" have been initiated to apply the knowledge of tropical plants and animals to the solution of real-life problems in the tropics. Ongoing studies of the green iguana, for example, will benefit the rural poor. The combined effects of removal of habitat (deforestation) and overharvest for its eggs and meat have decimated green iguana populations, robbing the people of Latin America of a traditional source of protein. Through the Iguana Management Project at STRI, scientists seek solutions to two major problems in Third World countries--protein deficiency and deforestation.

Visiting Scientists - STRI acts as an intellectual magnet as it attracts scientists from throughout the world to its research facilities in central Panama. During 1985, STRI accommodated over 1,400 visitors, including over 400 scientists from 90 universities and 83 other institutions, 35 countries and 41 states. In addition, STRI scientific staff and fellows conducted research in over 18 countries throughout the tropics.

STRI provides a logistic and intellectual base for visiting investigators that is unrivaled. Its library, laboratories and residence facilities, along with the experience and knowledge of the professional staff, allow scientists from the northern temperate world to work in the tropics without sacrificing the kind of support to be found in universities. Dissertations on a wide variety of subjects can be pursued in a biologically rich environment without concern for intellectual isolation.

As a result of STRI's research and educational programs in the Republic of Panama, its relations with a variety of governmental and educational institutions in the host country have been strengthened. STRI is often invited to participate at nationally and internationally important roundtable discussions, seminars and workshops. Its advice is sought not only by interested scientists and scholars, but by members of the Panama National Assembly when relevant proposed legislation is being considered. Several collaborative scientific agreements with local educational, governmental and conservation organizations demonstrate these cooperative efforts. In FY 1986, in recognition of STRI's important role to the Nation, the Government of Panama, extended to STRI benefits and prerogatives that correspond to other international missions operating there.

Publications - At least 240 scientific papers and books were published in 1985 as a result of work at STRI. Staff and visiting scientists are currently involved in over 140 research projects which will produce at least the same number of publications. Two of STRI's fellowship recipients have received prestigious awards for their research accomplishments and publications in recent years. In 1984, Phyllis Coley, now of the University of Utah, won the Ecological Society of America's Mercer Award for her thesis research on Barro Colorado Island, published in Ecological Monographs. This award is given to that young ecologist with the best ecological research published in the United States or Canada during the past two years, and is the "highest form of recognition for published ecological research." In 1981, Nigel Franks of the University of Leeds, won Britain's Thomas Henry Huxley Award for thesis research on Barro Colorado Island.

Facilities - STRI research facilities in Panama include the Barro Colorado Nature Monument; a marine laboratory at Naos Island (on the Pacific Ocean); a smaller marine laboratory at Galeta Point (on the Atlantic Ocean); a small field station in the San Blas Islands; and a cloud forest station at an elevation of 6,500 feet in western Panama. Funding for the construction of a new laboratory and conference facility at STRI's central administrative complex in Panama City is requested as part of the Construction appropriation request for FY 1987. STRI also maintains a 63-foot vessel for studies in both oceans. In addition, these facilities are used as home base for research conducted at numerous other sites throughout Panama. STRI research programs include both comparative studies among habitats and geographic regions and numerous carefully organized experimental studies.

Fellowships, Conservation and Environmental Education - Because of its location in the Republic of Panama, STRI is in an unique position among Smithsonian bureaus to play a significant role in the study and conservation of tropical forests. The goals of STRI in the area of education are two-fold: on the one hand, STRI is interested in the development of creative and critical scientists from tropical and nontropical nations; on the other hand, STRI is committed to the conservation of tropical ecosystems and is aware that their survival depends on the combined efforts of international organizations and the governments and people in the tropical countries themselves.

Approximately 100 young men and women representing a dozen nations (40 from Latin America) participated in STRI's academic programs in FY 1985. STRI and the Center for Marine Sciences and Limnology of the University of Panama organized a graduate-level course in tropical marine ecology attended by nine Panamanian students and five students from other Latin American nations. The participation of the foreign students was financed by a grant from the Tinker Foundation. STRI and Panama's Department of Education gave a one-week seminar on Conservation and Environmental Education attended by more than 30 local high school students.

STRI's educational function in tropical biology is enhanced by the best reference library for tropical studies in Latin America. This library serves STRI's staff, visiting scientists and students from secondary schools and universities in Panama. Currently, the library has over 1,000 patrons per month.

STRI is deeply involved in conservation activities in the Republic of Panama and, selectively, in other countries as well. Examples include sponsorship of student conservation groups; preparation of programs, articles, posters, exhibitions, and workshops; cooperative agreement with the Kuna Indians Employee Association to develop a biological reserve in the Comarca of San Blas; and technical assistance for the Parque Volcan Baru in Chiriqui. Studies of green iguana and forest gardening involve efforts to transfer the products of basic research programs to the "grass roots" local community.

The general objective of STRI's conservation/education program is to encourage a conservation ethic and to promote the preservation of forests and other threatened ecosystems in the tropics. During 1985, STRI's activities in conservation included synthesizing and disseminating information for the general public and Government of Panama agencies in an attempt to promote the implementation and enforcement of ecologically oriented national policies. For example, a colorful educational poster on the endangered species of Panama, and another on the subject of deforestation were distributed in schools and institutions throughout Panama. In addition, a series of articles on conservation education have been published in the local newspapers by STRI's Office of Educational Programs.

In the areas of public information, STRI published a brochure for visitors on the Barro Colorado Nature Monument and a Guide to the Trees of some of the finest forest in central Panama located in the Parque Nacional Soberania. A book written by STRI scientists, Ecology of the Tropical Forest, published by the Smithsonian Press in 1982, regarding research conducted on Barro Colorado Island, will be translated into Spanish for dissemination in the hispanic world. The STRI brochure "Opportunities for Research in the Tropics," presently distributed to hundreds of institutions throughout the United States and Europe, was translated into Spanish for distribution throughout Latin America.

All of these activities are designed to encourage research in the tropics, either by the direct support of individual projects or indirectly by encouraging the training of young scientists. This support is partly developed as a result of STRI's efforts as a constant advocate of the importance of studies in tropical biology to mankind as a whole.

EXPLANATION OF PROGRAM INCREASE - Research: Tropical Forest Biology Initiative (\$345,000) - Rapid destruction of tropical biotas and the limited understanding of their dynamics makes the acquisition of new knowledge especially urgent. STRI's research in forest biology on Barro Colorado Island (BCI) is one of the largest and longest-term attacks on this problem. An increased investment in forest biology research programs at BCI can expand the horizons of tropical biology and provide solutions to many problems in tropical forestry.

The staff of STRI have a history of individual research projects of exceptional quality. In addition, the Environmental Science Program has demonstrated the ability of STRI to integrate research activities of resident and visiting scientists into a substantive contribution to tropical biology. Another pioneering effort at STRI (census of a permanent 50-hectare plot of lowland forest) has the potential to form the central core of a major new initiative in tropical biology. The tree census project is clearly the most massive and definitive assault to date on the mystery of tropical tree species diversity. The scale of the work ensures that the results will stand for many years as the most authoritative data base on the demography and spatial relationship of tropical trees.

Optimal utilization of this data depends on funding of an expanded research effort to integrate that study into a larger programmatic initiative. Subject areas in which lack of knowledge is a critical impediment to advances in both basic and applied biology in the tropics include plant biology (physiology and seedling growth and development) and plant-animal interaction. For example, herbivorous (leaf-eating) insects can cause extensive defoliation, retarded growth and high mortality. Natural protection against these effects is conferred by toughened leaves, natural insecticides, or latex to inhibit insect attack. Identification of these attributes, the plant species that possess them, and the pests against which they are effective is fundamental to the development of a sound scientific foundation for reforestation of damaged watersheds, for conservation of tropical biotas as genetic reservoirs, and for sustained yield exploitation of tropical ecosystems.

Another active area of biological research involves use of molecular techniques to study evolution, a new field with the promise of elucidating some of the unsolved problems in the origin of organic diversity. Molecular techniques can be used in two distinct ways, both of which would be very relevant to STRI's mission and geographical location and mesh well with the 50-hectare census study.

1. Study of the evolution of molecules. An hypothesis which, if correct, allows the extraction of crucial evolutionary information for extant species is known as the "molecular clock." This hypothesis holds that molecules evolve at constant rates, so that molecular divergence can be used to calculate the time of splitting between two lineages. Panama is the ideal location both for testing the hypothesis and for calibrating the clock, because the rise of the Isthmus 3.1 to 3.7 million years ago provides a datable point, which allows the determination and comparison of divergence rates of many marine species in two oceans.

2. Application of molecular biology to the study of population biology and systematics. Molecules can be used to determine kinship relationship between individuals, migration between populations, changes in gene frequencies and relationships between taxa. Most of this information cannot be obtained in any other way, and all of it is of vital interest to the study and conservation of tropical populations. The tree census plot provides an excellent data base for kinship analysis and, thus, analysis of the genetic consequences of breeding systems for many tropical trees.

Despite recent advances in knowledge about the close relationship between plants and insects, present collections of terrestrial arthropods are woefully incomplete, especially in the tropics. Many tropical species undoubtedly have been and will be exterminated before they are even collected for the first time. Even in relatively well-studied areas such as central Panama, a large fraction of the fauna is still undescribed, including some very abundant species. A major effort would be initiated to study terrestrial forest insects on BCI with the goal of developing a synoptic collection in Panama. The strength of this proposal is that it couples systematic work with ecological studies of long duration. Such as collection would improve STRI facilities for research because it would be useful to many kinds of scientists.

This initiative also incorporates major collaborative projects with ongoing studies in other tropical areas. First, the BCI census plot is now being duplicated at an exceptionally rich forest site in the dipterocarp forest of Malaysia. A Smithsonian contribution to this effort of the Malaysian Forest Research Institute is critical to ensure the collection of comparable data. In addition to providing an unmatched set of comparative data, it provides an excellent opportunity to foster international cooperative programs among tropical regions. Second, the insect studies will complement research and collection development by the Museum of Natural History in Peru.

Scientific advances sometimes come most rapidly with individual scientific initiatives. However, the case for a programmatic effort at BCI is strong and international collaboration adds measurably to the merit of this initiative.

Specifically, the requested increase would provide for supplies and laboratory equipment for research initiatives in plant physiology (\$36,000), biochemical evolution (\$106,000), and the demography studies (\$38,000); STRI participation in Malaysian tree census (\$50,000); insect field studies and collection development (\$30,000); contractual services for tree demographic studies and arthropod field studies (\$55,000); travel involved in above research programs including Malaysia, Washington, D.C., and South America (\$30,000).

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from a variety of sources including receipts and collections from users of Barro Colorado Nature Monument facilities (20 U.S.C. 79b(d)) and annual allotments. They are used to support, in part, the salaries and related costs of the fellowship education program, the senior sabbatical program, insurance, supplies and facilities maintenance. Funds also are used to finance a short-term fellowship program in tropical biology, visiting scientists and students, field research, seminars and lectures, and to defray expenses at international scientific colloquia and ceremonial occasions. Funds also were provided from the Institution's Collections Acquisition, Scholarly Studies and Educational Outreach Program and Research Opportunities Fund for training in tropical biology, fellowships, field research, and environmental and research education in the tropics. Expenditures under this Program and the Research Opportunities Fund, totaling \$190,000 in FY 1985, have not been recorded for FY 1986 and FY 1987 which explains the variance in totals shown between FY 1985 and the subsequent two years.

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 grants from individuals, foundations, organizations or corporations for specific purposes. These are used to support scientific research related to the biological, ecological and behavioral processes on which tropical ecosystems are organized; research related to geophysical events; publication and distribution of research results; and studies relating to endangered tropical environments. Among these is the Edward W. Nelson Endowment Fund which supports the research on the habitat selection and survivorship patterns in tropical forest birds (estimated expenditures of \$11,000 in FY 1986).

Continuing support from the Exxon Corporation will be used to provide short-term tropical biology fellowships and assistance to 30 students from developing Latin American countries (estimated expenditures of \$44,000 in FY 1986 and in FY 1987). A grant was recently received from the Jessie Smith Noyes Foundation to start a program of predoctoral fellowships for students from developing countries (estimated expenditures of \$33,000 in FY 1986 and \$17,000 in FY 1987).

The significant grant awarded by the W. Alton Jones Foundation, Inc. (recently increased by \$100,000) will continue the following research projects: management of the

green iguana to determine whether populations can be increased for human consumption; the possibility of domesticating the paca as a food source; the possibility of increasing the mammal populations in the natural forests; and developing horticultural practices to be used inside tropical forests (the latter project funded by another foundation). These projects are developing alternatives to the destruction of tropical forests and are being carried out over a five-year period in the West Bank of the Panama Canal in the vicinity of the Barro Colorado Nature Monument (estimated expenditures of \$230,000 in FY 1986 and \$255,000 in FY 1987).

SMITHSONIAN ENVIRONMENTAL RESEARCH CENTER

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds			
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	65	3,324	1	82	-	130	-	24	8	377
FY 1986 -Base	69	3,528	1	75	-	114	-	30	8	382
-PL 99-177***		3,383								
FY 1987 Estimate	69	3,614	1	84	-	112	-	5	8	383

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	69	-	69
11 Personnel Compensation.....	2,103	33	2,136
12 Personnel Benefits.....	266	5	271
21 Travel.....	26	1	27
22 Transportation of Things.....	1	-	1
23 Rent, Communications & Utilities....	194	8	202
24 Printing & Reproduction.....	6	-	6
25 Other Services.....	333	14	347
26 Supplies & Materials.....	307	13	320
31 Equipment.....	292	12	304
Total	<u>3,528</u>	<u>86</u>	<u>3,614</u>

Analysis of Increase

Necessary Pay.....	38
Inflation.....	48

ABSTRACT - The Smithsonian Environmental Research Center (SERC) performs basic scientific research in two interrelated biological disciplines: (1) environmental biology--the study of plants and animals in natural environments and in simulated laboratory conditions to understand the growth, development and succession of whole environmental systems; and (2) regulatory biology--the study of mechanisms that regulate the growth and development of whole organisms down to their cellular and subcellular levels. SERC also maintains a radiocarbon dating laboratory that provides age estimates of archeologically important samples for the Institution's museums and outside research institutions. SERC currently occupies a research laboratory building and greenhouse in Rockville, Maryland, and a 2,600-acre site near Edgewater, Maryland, consisting of a tidal river system and surrounding land. No program increase is requested for FY 1987. Necessary

pay of \$38,000 is required for existing staff and an amount of \$48,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - SERC research programs are concentrated in two major areas: environmental biology and regulatory biology.

An environmental biologist studies organisms at the organizational levels of populations, communities, ecosystems and landscapes. Much of the research is a long-term interdisciplinary study of a tidal river (the Rhode River) and its watershed. At Edgewater, scientists concentrate on (a) how land use, air quality, acid rain and weather variations affect the movement of matter through this environment; (b) the dynamics and structure of important local plants and animals; and (c) the productivity of these organisms. The research examines how changes in one part affect other parts of the Rhode River system and how the entire Rhode River estuary interacts with the adjacent Chesapeake Bay.

A regulatory biologist studies organisms at levels ranging from molecules to whole organisms. Research emphasis is on the mechanisms by which growth and development are affected by environmental factors, such as the duration, intensity, and color of sunlight, temperature, humidity, and carbon dioxide levels. Individual projects include the determination of the molecular structure of pigment molecules; the assembly processes for making and inserting molecules in photosynthetic membranes; the timing and chemical control of the formation of reproductive structures; the light activation and regulation of genes and enzymes; the control of photosynthetic productivity in controlled environments (especially those controlled for light, water content and carbon dioxide); measurements of the membrane properties of cells; and the characterization of stimulus-response systems related to light and gravity in fungi.

Research Results - Research at Edgewater seeks to alleviate a major environmental problem of the Chesapeake Bay--the excessive flow of nutrients and sediment from the land to the Bay. Management of natural vegetation on stream banks and shore lines seems a good partial solution.

The Center directly measured the rates of removal of eroded soil particulates and nutrients from cropland runoff by streamside forests and found that over 90 percent of the sediment, 85 percent of total phosphorus and 80 percent of the nitrate in surface runoffs was removed by the forest. Surface runoff and shallow groundwater discharge rates were measured for each storm for several years along with changes in their sediment and nutrient composition, as these waters transited the riparian forest. Even more dramatic, the forest also removed 90 percent of the nitrate in the groundwater. Essentially all of this removal took place in the first 20 yards of forest. The role of streamside forests is crucial in reducing the excessive flow of these important agricultural fertilizers into the Bay.

The Center shared the results of its research program by conducting a symposium in 1985 in which results from all known relevant research projects elsewhere were presented and discussed. The Smithsonian will publish the proceedings. The results from other research in coastal Georgia and North Carolina agreed with the Center's results and supported the validity of regional extrapolations. Thus, a cost effective solution to one of the most difficult pollution problems of the Chesapeake and surrounding water is now feasible.

Nutrient concentrations in interstitial water were measured throughout the year in two brackish Chesapeake Bay tidal marshes which differ in elevation and vegetation, and which receive runoff from the Rhode River watershed. At all sites, sulfate-to-chloride ratios were lowest during the fall. In contrast, dissolved ammonia, phosphate, organic nitrogen, and organic phosphorus concentrations did not vary seasonally but

differed among sample sites. These nutrients were generally enriched in interstitial water relative to tidal water and those that were most enriched declined in concentration with increasing proximity to creeks. In the low marsh, comparison of nutrient concentrations in interstitial water with those in tidal water suggested that ebb water contained 5 to 15 percent interstitial water. Flow of interstitial water toward creek banks in the low marsh was traced with fluorescent tracer dye. Consequent seepage of interstitial water into the creek of the low marsh was estimated from continuous monitoring of water table heights and from measurements of hydraulic conductivity. The estimated seepage could account for only a small portion of the tidal export of dissolved nutrients from the low marsh. Recent studies in the Rhode River Estuary indicate that most of the observed exchanges of nutrients between tidal waters and tidal marshes probably occur by mixing processes on the surface of the marshes rather than along the creek banks.

SERC is monitoring ultraviolet sunlight at the Mauna Loa observatory in Hawaii. The ultraviolet data obtained show that there is a solar variability in measured ultraviolet light which is relatively small compared to the Sun's total output. Such variation in ultraviolet exposure may affect plant and animal life on the Earth.

Plant growth depends upon its ability to exchange carbon dioxide with the atmosphere. This exchange is regulated by the opening of small leaf pores, the size of which is believed to be regulated normally by photosynthesis of the cells that form these openings. Using a plant whose pore cells do not contain the chlorophyll necessary for photosynthesis, researchers found that adding blue light enhanced the nonphotosynthetic opening of these pores. The growth rate was found to be directly proportional to the degree of pore opening. Where normal leaf pore function is restricted, it has been shown that the regulation of pore sizes by nonphotosynthetic blue light may be very important in controlling the growth of crop plants.

The leaves of green plants contain pigmented structures, chloroplasts, where light is absorbed by chlorophyll for photosynthesis. These chloroplasts are composed of membrane and nonmembrane phases. The protein synthesis machinery of chloroplasts, chloroplast ribosomes, is distributed between both phases. The reason for this compartmentation is not known. However, it is thought that the chloroplast ribosomes associated with membranes add proteins to the membranes as part of the process of membrane growth. Evidence in support of this conclusion has been obtained. By studying the structure of the chlorophyll protein complex of the first light reaction of photosynthesis in membranes from spinach chloroplasts, two polypeptides were found. These polypeptides represent two gene products, and both appear to be made only by ribosomes bound to the chloroplast membranes. Such data are essential for understanding how chloroplasts grow.

One of the products of photosynthesis is oxygen. Two light-requiring systems are needed to produce oxygen, but the location and interrelationships of these systems within the photosynthetic membranes of two large groups of plants--the cyanobacteria and red algae--are unknown. These plants are unique because they contain red and blue colored pigments in antennae complexes that capture light energy very efficiently and transfer it to the photosynthetic reaction centers. Data have been obtained to support the hypothesis that the chloroplasts of the red algae originated from once free-living primitive cyanobacteria. By sensitive immunological techniques, it has been shown that the terminal pigments from such pigment complexes in both plant groups are cross-reactive. Such cross-reactivity indicates a common origin and provides data on the way in which photosynthesis developed on the primitive Earth.

Plants and animals are believed to have evolved from common ancestral organisms originating on the primitive Earth. The discovery of animal peptide hormone-like activity in plants provides new evidence in support of the common metabolism of such ancestors. In addition to the demonstration of insulin-like material in the flowering

plant duckweed, Lemna, somatostatin-like activity also has been discovered in Lemna using radio-immunoassay. These materials also function like the animal hormones in animal bioassay systems. To date, their function in the growth of plants is not known, but their presence in plants is surprising and interesting.

The effects of environmental stimuli on an organism's sensitivity to gravity are being investigated using cells of the fungus Phycomyces. The application of gravitational stimuli to single cells of the fungus has led to the development of a reliable method that displaces large cell components such as the vacuole and cytoplasm and in doing so influences the cell's ability to sense the direction of gravity as well as its ability to grow. Results of this research are expected to be applied to studies of how other stimuli, such as light, may influence sensitivity to gravity.

Educational Activities - SERC provides a broad range of educational activities, including teacher-led field trips, self-guided nature trails, and guided tours in which groups of students and the general public observe firsthand a variety of natural habitats. A work-learn program enables students to work with scientists, both in the field and in the laboratory. Predoctoral, postdoctoral and sabbatical programs for professionals at all levels enable visiting researchers to carry out collaborative or independent research at SERC. The results of SERC's research are disseminated through the publication of findings in scientific journals, the presentation of research findings at national and international scientific meetings and seminars, the training of scientists, and public education activities.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are provided by allotments and proceeds from the sale of educational brochures and materials. Uses include support of special events, work-learn and fellowship programs, and the salary costs of a docent coordinator and a part-time public program director.

Restricted Funds - These are provided through donations, bequests and foundation grants that are designated for specific subjects of investigation. For SERC, these include the Eppley Foundation Grant to support investigation of biological responses to solar radiation (estimated expenditures of \$5,000 in FY 1986), and the Rollins Endowment Fund used to support the study of physical measurements of radiation (estimated expenditures of \$6,000 in FY 1986 and \$5,000 in FY 1987).

Federal Grants and Contracts - These funds are provided by various Federal and State agencies for special projects which can be conducted at SERC because of the expertise of the staff and the unique physical site characteristics. Contracts from the Chesapeake Research Consortium and the U.S. Department of Energy are expected to total approximately \$382,000 in FY 1986 and \$383,000 in FY 1987.

NATIONAL AIR AND SPACE MUSEUM

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds		& Contracts	
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	227	8,112	-	8	29	3,126	-	252	2	101
FY 1986 -Base	211	8,515	-	8	29	3,087	-	131	3	294
-PL 99-177***		8,171								
FY 1987 Estimate	211	8,712	-	8	29	2,768	-	87	3	275

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	211	-	211
11 Personnel Compensation.....	5,941	105	6,046
12 Personnel Benefits.....	718	15	733
21 Travel.....	56	2	58
22 Transportation of Things.....	57	2	59
23 Rent, Communications & Utilities....	28	1	29
24 Printing & Reproduction.....	139	6	145
25 Other Services.....	544	23	567
26 Supplies & Materials.....	405	17	422
31 Equipment.....	627	26	653
Total	8,515	197	8,712

Analysis of Increase

Necessary Pay.....	120
Inflation.....	77

ABSTRACT - The National Air and Space Museum (NASM) serves as an international center for the exhibition, research, education, and preservation and restoration of the artifacts and documentation related to the development of aviation, space flight and space science. Included in the collection are more than 300 historic aircraft and 250 spacecraft. The Museum serves a wide public and scholarly audience interested in the history and technological achievements of aviation and space flight. In addition to its Mall location, NASM maintains a facility for the preservation and restoration of artifacts at the Paul E. Garber Preservation, Restoration and Storage Facility in Suitland, Maryland. No program increase is requested for FY 1987. Necessary pay of \$120,000 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 - During FY 1986, the National Air and Space Museum will celebrate two anniversaries: the 40th anniversary of the establishment of the Museum and the 10th anniversary of the opening of the Museum. Established by law on August 2, 1946, NASM's role as a national resource for public and scholarly interest in air and space fields was greatly strengthened by the completion of the current museum building on The Mall in 1976. More than 93 million people have visited the Museum since it opened, making it the most popular museum in the world. NASM's collections consist of more than 300 historic aircraft; 250 spacecraft; and extensive holdings of artifacts, papers, photographs, microfiche, video discs and technical drawings which are available for study by interested scholars throughout the United States and abroad. The exhibition program uses state-of-the-art techniques in exhibit design, presentation and equipment to convey excitement of the subject matter to the visitor. An active scientific research program in Earth and planetary geology continues as an important endeavor of the Museum. Active programs in collections management, preservation and restoration of artifacts remain as a centerpiece of the Museum's curatorial efforts. As a public institution, considerable emphasis is placed on the education and outreach activities through lectures, films, planetarium presentations, docent tours and written materials for schools and visitors to the Museum.

NASM maintains exhibits preparation, collections storage and management and preservation and restoration programs at the Paul E. Garber Facility in Suitland, Maryland. The Museum has restored more than 57 historic aircraft and spacecraft from its collections at the Garber Facility, and the restoration of at least two more per year are planned over the next several years. The Garber Facility also presents to the public approximately 90 aircraft, numerous spacecraft and other flight-related objects. In 1985, approximately 19,000 people visited the Garber Facility on scheduled tours throughout the year and during the annual open house.

Research - Research is the basic foundation of the Museum's efforts as a primary center for the study of the science and technology of aviation, space, and geophysical science. The results of research projects support the exhibitions, publications, education, historic restoration, and archival preservation programs. In FY 1985, a curator of Foreign Space Programs was added to the research staff, and the first Research Report was published. The Research Report in FY 1986 contains the results of the many research projects conducted by the Museum in the fields of Earth and planetary studies, space science and exploration, aeronautics and contemporary history. Furthermore, the Museum sponsors applied research and development programs in the restoration of historic aircraft and spacecraft, and in the storage and retrieval of archival and visual information.

Earth and Planetary Studies: The Center for Earth and Planetary Studies was established in 1973 to conduct research in comparative planetology and in the development of the Earth's landforms and surface composition by analyzing remote-sensing data obtained from satellites. Research analysis of remote-sensing data uses scientific information gathered by satellites and analyzed by computer to produce geological and topographical studies of areas of the surface of the Earth, the Moon, and other planets. In FY 1984, a new research project on satellite remote sensing of central Mali was initiated to determine the long-term effects of climate change on the fragile environment of the inland Niger Delta region. This ongoing project has already revealed dried-up lake beds and movement of layers of sand related to the drought and climate changes. Research in mapping and analyzing the origin of surface features on the Moon and Mars continued throughout FY 1985 and into FY 1986 with funding by the National Aeronautics and Space Administration (NASA).

In FY 1983, NASA designated the Center for Earth and Planetary Studies as a Planetary Image Facility, a repository allowing researchers access to the collections of images of the planets taken by NASA space probes. In FY 1985, the Center was utilized by

more researchers than ever before. Plans are now under way to link the Planetary Image Facilities across the country beginning in FY 1986 so that this valuable information can be easily shared.

Space Science and Exploration: The Museum's research and documentation of the Space Telescope (an astronomical observatory scheduled to be launched into orbit by NASA in October 1986) will serve as a rich source of research material for historians in the future, and provide a valuable current record of space technology. The continuing oral history projects on the Space Telescope and Space Astronomy have already resulted in 450 hours of interviews with over 150 people. These transcripts are currently being used by numerous scholars in their research. A publication on the Space Telescope has been scheduled to coincide with its launch.

In FY 1986, a new research project on living and working in space will begin. This research will focus on the effects of long-term life in a space station and will culminate in a new exhibit based on the NASA Space Station. Other new research thrusts in FY 1986 will include the expansion of the oral history project to include the Planetary Sciences, never before studied by this methodology, and the documentation of the James Webb years at NASA.

Aeronautics: The Museum staff continued to work on the Smithsonian History of Aviation during FY 1985. Staff efforts will be directed toward a new series of scholarly monographs treating various aspects of aerospace history in FY 1986. The goal will be to attract to the Museum and the Smithsonian Press high quality manuscripts produced by scholars working with the Institution. The format of the series is being changed from multivolume to a single volume Smithsonian History of Aviation supplemented by the monographs.

Exhibitions - In FY 1985, new exhibitions at the Museum included "Military Air Transport," showing the establishment of air transport in the armed forces; "Focus on Flight: Four Decades of Aerial Photography," exhibiting portions of the extensive collections of Rudy Arnold and Hans Groenhoff contrasting the artistic and historic views of aerial photography; display of the restored aircraft DH-4 and N-1M, and accompanying exhibit panels outlining both their history and the restoration procedures; "Aerial Firefighting," showing the use of aircraft in detecting and controlling forest fires; "Edward Henry Heinemann and Clarence 'Kelly' Johnson: Designers for the Jet Age," displaying the historical significance of their world famous aircraft designs; "John Safer: Sculptor," exhibiting 14 pieces of his artwork including the "Web of Space" sculpture, the National Air and Space Museum Trophy; and "Leroy Grumman and the F6-F Hellcat," showing the aeronautical designs and historic establishment of the Grumman Corporation, and featuring a World War II Hellcat fighter. The ever popular art gallery in the Museum opened a new exhibition entitled "Fire and Ice, a History of Comets in Art." This exciting exhibition includes paintings, jewelry, furniture, books and buttons relating to comets and their influence throughout history.

The new planetarium show "Comet Quest" opened in the Albert Einstein Planetarium in FY 1985. This popular show commemorates the reappearance of Halley's Comet and explains its fascinating history. An accompanying exhibition shows the make-up of comets and the emphasis of Halley's Comet in history.

Exhibition plans for FY 1986 include the opening of the major gallery "Looking at Earth." This gallery will explore efforts to see the Earth from higher vantage points, starting with early attempts using birds and kites, continuing with balloons, aircraft, spacecraft and finally satellites to study the Earth's changing surface. A U-2 reconnaissance aircraft and numerous Landsat photographs will be on display, along with a weather satellite depicting the advanced technologies used to look at the Earth. In conjunction with this exhibition, the art gallery will feature the winners of the "Looking

at Earth" art contest and photographs of the Earth. In January 1986, the Museum featured a continual slow scan video of the Voyager - Uranus encounter, the first close-up view of this faraway planet. The encounter and related exhibition will reveal a vast amount of information about this distant planet. Smaller exhibitions planned for FY 1986 include: "Exploring Comets"; "Space Food"; "America's Space Truck: The Space Shuttle"; "XV-22 Osprey Tilt rotor Helicopter"; "U. S. Military Aerial Demonstration Teams"; "Aerial Bombardment"; and the "Ariane IV Launch Vehicle."

The Museum will join with the United States Navy in FY 1986 in celebrating the 75th anniversary of U.S. Naval Aviation with several special exhibitions. Also planned for FY 1986 is the commemoration of the 50th anniversary of the Douglas DC-3, the one airplane which epitomizes the history of commercial air transport. The 50th anniversary of Air Traffic Control will also be commemorated by a special exhibition in FY 1986, in cooperation with the Federal Aviation Administration.

In FY 1987, NASM's plans for new exhibitions include "The Space Telescope" and "IRAS," the infrared astronomy satellite. Additional smaller exhibitions will cover "Women in Aviation"; "Gianni Caproni, Italian Aviation Pioneer"; and "Whitman Buster."

Exhibitions are complemented by film presentations related to air and space travel in the specially equipped Langley Theater, which uses an innovative high-resolution projection system (IMAX) and a giant screen for extraordinarily realistic effects. The newest IMAX film, "The Dream is Alive," premiered in June 1985, featuring actual film footage shot by the astronauts on three Shuttle missions. The combination of the high-resolution of the film and the size of the screen makes this film so realistic that it provides the audience with an accurate portrayal of space travel on the Shuttle. In FY 1986, another new IMAX film will debut called "On the Wing," presenting a comparison of natural and mechanical flight. Plans are currently being developed for additional film projects to begin in FY 1987 and beyond.

Development of Collections - In FY 1985, acquisitions included a UH1M helicopter gunship used in Vietnam; the American Eagle, the first ultralight used in police work; and a full-scale mock-up of the infrared astronomy satellite (IRAS). On December 6, 1985, the first NASA space shuttle, the Enterprise, was acquired by the National Air and Space Museum. Additional space artifacts are continually acquired from NASA missions.

Preservation and Restoration of the Collections - During FY 1985, the original 1903 Wright Brothers Flyer, because of its historic significance and public interest, was restored in the museum building on The Mall. The public was able to view and understand this delicate restoration project. The cleaning, chemical treatment and protection mark the first time that extensive preservation has been performed on the Flyer since Orville Wright prepared it for exhibition in 1927. Additional aircraft under restoration at the Garber Facility in FY 1985 included the OS2U Kingfisher, Spad XIII and the Arado 234. The restoration of the Wiseman-Cooke, a 1910 biplane which flew the first scheduled mail route, was completed in FY 1985. The treatment program, begun in FY 1983 to reduce further deterioration of aircraft not yet restored, has become the heart of the restoration program.

The Space Science and Exploration Department's Artifact Preservation Group has completed its third year of providing seminars and guidelines in the area of artifact preservation, exhibition, care and handling. These seminars have created an awareness of the special problems related to space artifacts that were designed and constructed based on one-time use in zero-gravity environments without oxygen, and not for extended storage or display on the Earth's surface.

Video Disc Project and the Development of the System for Digital Display - With funding provided in FY 1985, the National Air and Space Museum has been able to accelerate its two archival programs utilizing video disc and computer technology: the Video Disc Project and the System for Digital Display. By continuing to develop and utilize these systems, the Museum can greatly expand its photographic and archival collections to enhance ongoing research efforts.

Video Disc Project: The enhancement of NASM's video disc program in FY 1985, with the addition of two camera operators and cameras, was made possible by additional funding provided in the FY 1985 budget. This preservation program of archival photographs and other visual collections consists of filming the images on 35mm film and the transfer of this film onto video disc format. With the expanded base for this program, over 350,000 images have been filmed to date and three discs have been completed. By facilitating greater access to the collection and eliminating the loss or destruction of the originals, this project has expanded the availability of these vast collections to scholars throughout the world.

Development of the System for Digital Display: Utilizing the most advanced technological innovations in computer and video technologies, the Museum with additional funding provided in FY 1985 has successfully put together the first three production systems. Currently being tested in the field is the ability to translate any historical document into digital format, produce a printed copy of the text and conduct a full-text index search of any word. Two of the systems for digital display are presently at off-site locations to copy and store extremely valuable historical documents for use in research projects. The system has received international attention with requests for production installations coming from England and Austria, as well as numerous United States organizations. A patent for this digital display system is being sought. In FY 1986 and beyond, the system will continue to be refined, tested and employed all around the country, digitally storing and indexing invaluable collections.

Public Education and Orientation - The Office of University Programs was created to support the academic focus of the Museum. In FY 1985, the cooperative program between NASM and New York University continued, bringing History of Science undergraduate students to the Museum to conduct a portion of their course work and receive hands-on experience working with Museum artifacts. Expansion of this program to include a combination of international and regional universities will be developed and implemented in FY 1986 and FY 1987.

The Museum's elementary and secondary education outreach programs were expanded in FY 1985 by the production and distribution of new packaged programs. Additional outreach programs through teacher workbooks, brochures, curriculum materials and docent tours maintain NASM's high standard for education.

NASM continues to present many series of free lectures, seminars, symposia and films to the public. These include the General Electric sponsored lecture series, the Von Braun lecture, the Charles Lindbergh Memorial lecture, the Monthly Sky lecture and the Exploring Space with Astronomers lecture series.

During FY 1985, these events included lectures on "The Ultimate Is To Survive" by test pilot Chuck Yeager; "The Beginning of the Jet Age" by Hans von Ohain, inventor of the jet engine; and "'Houston, We've Got a Problem': Mission Control from Mercury to Shuttle" by Christopher Kraft from NASA Mission Control. Other presentations included "The Canals of Mars," "Comets: Relics of a Cold and Distant Past," "The Milky Way: An Insider's View," "Venus: Earth's Wayward Twin," "Flying Tigers to Turbojets," and "World Champion Air Racers: From Concept to Competition." NASM also sponsored "Ten Years After Apollo-Soyuz: A Symposium," and "Are We Alone? The Infrared Search for Planetary Systems."

Publications - The planned publications for FY 1986 include the Wright Symposium papers, the artifact series publication on the History of Space Suits, the catalogue of the Space Astronomy Oral History Project, the Research Report and U.S. Women in Aviation 1930-39. Additional publications in FY 1986 include Congreve and Hale Rockets, and the Scholars Guide to Aerospace History in Washington, D.C. Publication projects planned for FY 1987 will include artifact series publications on Apollo 11 and the Titan Launch Vehicles, as well as the annual Research Report.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from a variety of sources including the Museum's share of the net proceeds from the shops and restaurant, the net proceeds resulting from bureau activities (such as the Theater and Planetarium) and small allotments. In addition to meeting expenses of the Theater and Planetarium, these funds are used to finance fellowships, guest lecturers, symposia and special events. Portions of the proceeds from the Theater and Planetarium are used to support the production of new IMAX films including "The Dream is Alive" and "On the Wing," and for support of other Institution programs. However, additional funding also was received for both new films. During FY 1985, in the Albert Einstein Planetarium, the Museum premiered a new show "Comet Quest," which commemorates the reappearance of Halley's Comet in 1986. Continuing support is provided for distinguished scholars to study at the Museum through the Lindbergh Chair of Aerospace History and the International Fellowship. Other fellowship programs include Guggenheim and Verville, which provide funding for pre- or post-doctoral students and other distinguished scholars in aviation and space science.

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. Examples of these funds are the Ramsey Endowment, used to finance research relating to naval flight history (estimated expenditures of \$25,000 in FY 1986 and \$29,000 in FY 1987); the Guggenheim Endowment, which is used for lectures and stipends (estimated expenditures of \$20,000 in FY 1986 and in FY 1987); the Martin Marietta Chair in Space History, which supports research by distinguished scholars in the space sciences (estimated expenditures of \$38,000 in FY 1986); and the NASM Educational Fund, which is used for general education purposes, symposia and seminars (estimated expenditures of \$32,000 in FY 1986 and \$35,000 in FY 1987).

Federal Grants and Contracts - These are provided by various agencies and departments for special projects which can be conducted at NASM because of its expertise in a given area. Continued funding from the National Aeronautics and Space Administration grant program supports the following research activity in planetary geology by the Museum's Center for Earth and Planetary Studies: photogeologic investigation of planetary tectonic features (estimated expenditures of \$89,000 in FY 1986 and \$96,000 in FY 1987). Additional support from NASA enables efforts to continue in mapping and analyzing the origin of surface features on the Moon and Mars (estimated expenditures of \$85,000 in FY 1986 and \$84,000 in FY 1987). The research project on satellite remote sensing of central Mali, begun in FY 1984, continues to determine the long-term effects of climate change on the fragile environment of the inland Niger Delta region. This research was expanded in FY 1985 to cover fringe areas of the world's deserts and will receive continued financial support (estimated expenditures of \$85,000 in FY 1986 and \$65,000 in FY 1987). The Space Telescope Historical Project, a joint effort between NASM and the Johns Hopkins University, also is partially funded by NASA (estimated expenditures of \$35,000 in FY 1986 and \$30,000 in FY 1987).

NATIONAL ZOOLOGICAL PARK

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds		& Contracts	
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	320	11,104	1	109	-	216	-	156	-	80
FY 1986 -Base	318	11,519	1	112	-	133	-	111	-	-
-PL 99-177***		11,043								
FY 1987 Estimate	318	11,747	1	113	-	125	-	60	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	318	-	318
11 Personnel Compensation.....	8,573	130	8,703
12 Personnel Benefits.....	1,079	19	1,098
21 Travel.....	39	2	41
22 Transportation of Things.....	11	-	11
23 Rent, Communications & Utilities....	54	2	56
24 Printing & Reproduction.....	16	1	17
25 Other Services.....	434	18	452
26 Supplies & Materials.....	1,119	48	1,167
31 Equipment.....	189	8	197
42 Insurance Claims & Indemnities.....	5	-	5
Total	<u>11,519</u>	<u>228</u>	<u>11,747</u>

Analysis of Increase

Necessary Pay.....	149
Inflation.....	79

ABSTRACT - In its 1889 charter, the mission of the National Zoological Park was defined as "the advancement of science and the instruction and recreation of the people." Today these goals are accomplished through programs that make the National Zoological Park a leading international center for animal exhibition; biological and veterinary research; and public education in conservation and in the humane care of animals. The Zoo houses its public collection on a 163-acre site at Rock Creek Park in Washington, D.C., and maintains a major conservation, captive breeding and research center on 3,150 acres in Front Royal, Virginia. The Zoo serves the public and specialized audiences in understanding animal adaptations and evolution, and the interaction of wildlife with the environment, through its programs in research, conservation, animal health and education. No program increase is requested for FY 1987. Necessary pay of \$149,000 is required for

existing staff and an amount of \$79,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - At the Rock Creek site, the National Zoological Park is responsible for the maintenance and welfare of approximately 2,000 animals comprising 381 species. The species are chosen primarily for their interest to the public and their contribution to research and conservation. The more than 870 animals, representing 57 species, housed at the Conservation and Research Center (CRC) at Front Royal have been selected due to their long-term breeding potential and to the precarious nature of the species existence.

In addition to its traditional animal management practices, the Zoo plays a major role in developing new techniques for long-term sperm and embryo storage and embryo transplantation; these techniques probably will play a crucial part in future conservation objectives. Many species are endangered due to man-made disturbances to their natural habitats, which has been particularly true in the tropics. For this reason, the Zoo has an energetic program of conservation research in the natural habitats of endangered species and is conducting pioneering studies in the reintroduction of animals bred in captivity to their native habitat. The Zoo is developing programs to inform the public of the role both the public and zoos can play in animal conservation. The major programs of the National Zoo are: Animal Exhibition; Animal Management; Animal Conservation and Propagation; Research; and Public Education and Information.

Animal Exhibition - The primary objective in exhibiting animals is to interest the public in animal biology, and in the role animals play in the ecosystem. To best serve this purpose, animals must be provided with the physical conditions necessary for a complete and active life, and as natural an environment as possible. The success of the breeding program in the recently renovated Small Mammal House, which provides an esthetically pleasing and attractive setting, is strong testimony of the necessity of simulating the natural habitat while animals are held in captivity.

An August 1985 ground breaking ceremony marked the start of Phase I of the Olmsted Walk project. Renovation of this main walkway through the Zoo will enhance greatly the appearance of the Zoo, increase pedestrian comfort, and improve access to the exhibits. Completion of the first phase will unify all major buildings in the lower half of the park with a winding pedestrian walkway. This project is in keeping with the spirit of Frederick Law Olmsted, the pioneering landscape designer who contributed to the original design of the Zoo.

Further improvements to the Zoo are the new entrance and the gibbon exhibit. This innovative enclosure is designed to allow the gibbons to demonstrate their unique gymnastic ability. Olmsted Walk is slated for completion in time for the Zoo's centennial in 1989.

In July 1985, an Indian rhinoceros was placed on exhibit after an absence of five years, marking the first step in a major conservation effort to reestablish the species. This effort, in cooperation with other major zoos in the United States, is taking place under the auspices of the United States Species Survival Plan for Indian rhino. To assure genetic diversity and, thus, the success of the long-term program for the captive propagation of Indian rhinoceros in the United States, the National Plan will obtain animals from the wild with the aid of the Smithsonian Institution and the Government of Nepal.

Animal Management - Of prime importance is the health and well-being of the animals under the Zoo's care. The Zoo attempts to provide the animals with natural and congenial conditions which contribute to the overall state of health and a general absence of stress. In addition, the National Zoo provides the most advanced techniques in health

care, preventive medicine, emergency treatment, surgery, dentistry, and neonatal medicine. The medical care is reinforced by a scientifically-based nutrition program and the highest standard of food preparation. Comprehensive medical and general records, the majority of which are automated, are maintained on all animals. These records are a major tool in maintaining the Zoo's health standards and in developing breeding programs.

In an average year, approximately 2,500 medical cases require attention, of which about 500 require hospitalization. In FY 1985, a new 12,000 square foot hospital opened at the Conservation and Research Center, Front Royal. Similar facilities at Rock Creek are, however, less than satisfactory. The hospital at Rock Creek was built in 1969 and is now inadequate. With funds appropriated in FY 1986, construction will begin on a 17,000 square foot hospital building at Rock Creek. This facility will consist of a large operating room with adjoining support rooms. Both new hospital facilities will add tremendously to the level of animal care at the Zoo.

Animal Conservation and Propagation - The Conservation and Research Center plays an important role in research and breeding programs for rare and endangered species. Significant births and hatchings during 1985 included: red-footed tortoise, green tree python, Guam rail (a highly endangered bird), and the tiger quoll (the first of this species born outside its Australian homeland). In addition, the Center's facilities provide a unique environment for the establishment of selected breeding programs. This has enabled the Center to breed successfully such animals as zebras, Burmese brow-antlered deer, scimitar-horned oryx, Pere David's deer, maned wolves, lesser pandas, binturong, and selected birds, especially cranes.

The Center also is an important training ground for the Wildlife Management and Conservation curriculum which is taught to many nationals of developing nations. Nearly 100 students from South America, Africa and Asia have participated in this unique course at Front Royal, and over 100 students have attended the course in Sri Lanka; Venezuela, Peru, Indonesia, and Brazil. Training is also given to United States students of veterinary medicine, pathology, animal behavior and animal management. The Zoo also will continue to play an active leadership role in a variety of national cooperative breeding programs including those for the golden lion tamarin, gorilla, orangutan, tiger, and small-clawed otter.

The National Zoo is active in international programs of biological conservation. An integral part of these programs is the reintroduction to their native habitat of various animals bred in captivity. One such study during 1984 and 1985, involved zoo-bred golden lion tamarins which were reintroduced to a protected forest in Brazil. This reintroduction was the ultimate step in a comprehensive and pioneering program to save this animal from extinction. To ensure the success of the reintroduction of tamarins, the Zoo instituted a thorough program of research and management. Captive-born animals had to be "educated" to fend for themselves in the wild, and become acclimated to the different foods and climate of their native habitat. This process involved training the animals to search for hidden and dispersed food and to recognize a wide range of naturally occurring edible objects. At present, reintroduced animals have raised infants and are thriving in the wild.

Conservation efforts have also entailed placing animals with other zoos. Over the years, pygmy hippopotami have been shipped to zoos in Argentina, Indonesia and Singapore. The Zoo continues to explore opportunities to place this rare species in zoos outside the United States in order to further captive reproduction and zoological interest in this species.

Research - The success of the programs in conservation and propagation depends largely upon the Zoo's ongoing research. The reintroduction of the golden lion tamarins

to the wild would not have been possible without sophisticated and painstaking research. With little prior knowledge, Zoo researchers had to study in great detail the structure of the social and family life of tamarins before they could successfully breed them and, ultimately, re-create natural groups of animals capable of surviving in the forests of Brazil.

Basic research at the Zoo concentrates on understanding the factors which influence the daily lives of animals. These factors range from communication patterns to nutrition. The results of these studies are published in reports and delivered at various scientific congresses. In FY 1985, the Zoo staff published over 124 scientific articles.

Another major focus of research at NZP is genetics studies, which is conducted in conjunction with zoos around the world and with the National Cancer Institute. These studies are expected to contribute to the long-term viability of captive populations of critically endangered species. Automated demographic models and long-term breeding plans are being developed for captive tigers, Asiatic lions, and golden lion tamarins. Efforts to determine the pedigrees of several hundred captive endangered Bali mynahs were initiated prior to establishing a reintroduction program for this bird in Bali, Indonesia. New biochemical studies resulted in the finding that cheetahs in captivity show little genetic variation, a possible partial explanation for their poor captive breeding record.

Two new research projects were started on a species completely new to the Zoo's collection. In collaboration with the Duke University Primate Center, the Zoo successfully reproduced, for the first time, western tarsiers acquired from Malaysia. Tarsiers have been little maintained or exhibited in zoos due to their delicate and nocturnal nature. Plans to conduct field studies on the behavioral ecology of this primate have been made to develop a more comprehensive understanding of the biology of these animals. The Zoo also has spearheaded an attempt to breed Guam rails in captivity. This bird is disappearing from the island with astonishing rapidity and the Zoo hopes that the decline of the species can be reversed and captive-bred rails be reintroduced to Guam.

Public Education and Information - As part of its broad educational programs, the Zoo reaches out to a large audience with signs posted throughout the park. More personal educational efforts are provided through programs such as "Meet a Snake," and "laboratory" groups like HERplab, BIRDlab, and ZOOlab. More than 10,000 people have visited HERplab, a program that received a national educators award in 1983. Public education and orientation are assiduously pursued by the Zoo, the success of which is seen in the approbation the Zoo has received from as far away as Japan and Australia. The Zoo series "Symposia for the Public," which began in 1982 to introduce serious, biological theory to nonspecialists has met with complete success. The Zoo is engaged in finding innovative ways to inform visitors of its multifarious conservation programs. A weekend event, the Tropical Forest Festival, consisting of a series of multi media activities, addressed tropical forests, their animal inhabitants and the problems facing tropical forests today. A temporary exhibition, "ZOOARK and Beyond" is in the planning stage (scheduled to open in the summer of 1986). This exhibition will inform visitors of world wildlife conservation problems and on what both zoos and the public can do to help solve these problems.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from a variety of sources including fees for general use of the facilities at the Conservation and Research Center at Front Royal. Expenditures are made for the support and maintenance of these facilities; for the purchase of animals for the collection; and for salary and support costs for the director. In addition, FY 1985 funding from the

Institution's Collections Acquisition, Scholarly Studies and Educational Outreach Program, Research Opportunities Fund and Special Exhibition Fund amounted to \$74,000 in support of research, education and exhibition projects.

Restricted Funds - These are provided through gifts and foundation grants and are used to support specific research projects and education programs. For example, funds provided from a grant from the Packard Foundation are being used to train foreign nationals from developing nations in animal management techniques.

OFFICE OF THE ASSISTANT SECRETARY FOR HISTORY AND ART

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
FY 1985 Actual	9	401	-	5	-	3	-	-	-	2
FY 1986 -Base	8	364	-	4	-	1	-	1	-	-
-PL 99-177***		424								
FY 1987 Estimate	8	370	-	4	-	1	-	1	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	8	0	8
11 Personnel Compensation.....	303	4	307
12 Personnel Benefits.....	38	2	40
21 Travel.....	7	-	7
22 Rent, Communications & Utilities....	6	-	6
25 Other Services.....	6	-	6
26 Supplies & Materials.....	3	-	3
31 Equipment.....	1	-	1
	<hr/>	<hr/>	<hr/>
Total	364	6	370

Analysis of Increase

Necessary Pay..... 6

ABSTRACT - The Assistant Secretary for History and Art supervises the Smithsonian Institution's history and art programs and activities. No program increase is requested for FY 1987. Necessary pay of \$6,000 is required for existing staff.

PROGRAM - I. The Office of Assistant Secretary for History and Art: With a base of 3 workyears and \$184,000 this Office advises and assists the Secretary in overseeing the programs of the Smithsonian history and art bureaus, which include: the Archives of American Art (headquartered in Washington, D.C. with regional offices in Boston, Detroit, New York, San Francisco and Los Angeles); the Cooper-Hewitt Museum in New York City; the Center for Asian Art, consisting of both the Freer Gallery of Art and the Arthur M. Sackler Gallery; the Hirshhorn Museum and Sculpture Garden; the National Museum of African Art; the National Museum of American Art and its Renwick Gallery; the National Museum of American History; the National Portrait Gallery; the American Studies Program; and the Anacostia Neighborhood Museum. During FY 1986 and FY 1987, the opening of the

Arthur M. Sackler Gallery and the transfer of the National Museum of African Art to its new quarters in the Quadrangle will be of highest priority. The Office coordinates and manages Institution-wide special projects, programs, exhibitions and publications commemorating significant historical individuals and events. In FY 1987, this will include the continuation of the editorial project to publish the manuscripts of Joseph Henry (1797-1878), the eminent American physicist and first Secretary of the Smithsonian Institution, and the planning of exhibitions and activities to commemorate the bicentennial of the signing of the Constitution. The Office administers the Regents' Collections Acquisition Program, which was established to facilitate the purchase of major acquisitions by Smithsonian museums. The Office also bears responsibility for the oversight of planning for the use of the General Post Office building.

II. Joseph Henry Papers: With a base of 5 workyears and \$180,000, the Joseph Henry Papers collects, transcribes, edits, researches, and publishes the manuscripts of Joseph Henry. This entails extensive searches in this country and abroad for extant Henry documents. Publication objectives include a projected fifteen-volume letterpress edition, an indexed microfilm edition of approximately 90,000 items, and special publications aimed at more general audiences. The Papers of Joseph Henry is an essential resource work for historians in the history of science, and in the intellectual and cultural history of the United States. The letterpress edition is a source of otherwise unpublished and often previously unknown letters and papers that shed light on the history of the sciences in 19th-century America, on the development of Federal policy towards the sciences, and on the institutionalization and social structure of the scientific community in this country. The extensive annotation and introductory essays included in the work also provide an invaluable interpretive study of Henry and his milieu.

In FY 1985, the Henry Papers project published its fifth letterpress volume, which covered the years 1841 to 1843, during which time Henry was Professor of Natural Philosophy at the College of New Jersey (Princeton), and was still actively engaged in experimentation in electricity and magnetism. The Henry Papers project has begun the sixth volume, which includes the years 1844-1846. This volume covers the end of Henry's tenure at Princeton, the establishment of the Smithsonian Institution, and Henry's selection as the first Secretary of the Smithsonian in December 1846. This volume will be submitted for publication in FY 1987. Work will then commence on the seventh volume, documenting Henry's first years at the Smithsonian.

In FY 1986, the Henry Papers project will automate many of its activities, install personal computer work stations, printers, and a local area network. This will facilitate the production of the letterpress volumes, as well as aid in research and the entry of information into the documentary index.

In pursuit of its mission, the Henry Papers cooperates with other Smithsonian units on various projects. Two recent projects have been a symposium in connection with the exhibition on the Wilkes Expedition at the Museum of Natural History, and an exhibition to celebrate the tricentennial of Newton's Principia at the Museum of American History.

In FY 1987, the staff will continue to conduct research in American history and the history of science, to participate in many different scholarly activities, and to help with the Newton exhibition.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds provide for memberships for the Institution in the American Council of Learned Societies and the American Crafts Council and for expenses associated with the Office of the Assistant Secretary.

NATIONAL MUSEUM OF AMERICAN HISTORY

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTE**	Amount	FTE**	Amount
FY 1985 Actual	301	11,130	4	354	1	793	-	267	1	41
FY 1986 -Base <i>Ap. 2</i> -PL 99-177***	301	11,912 11,342	3	207	1	356	-	719	1	9
FY 1987 Estimate	301	12,357	2	176	1	349	-	515	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	301	-	301
11 Personnel Compensation.....	8,384	137	8,521
12 Personnel Benefits.....	1,058	20	1,078
21 Travel.....	76	6	82
22 Transportation of Things.....	75	6	81
23 Rent, Communications & Utilities....	26	1	27
24 Printing & Reproduction.....	82	47	129
25 Other Services.....	1,390	156	1,546
26 Supplies & Materials.....	559	64	623
31 Equipment.....	182	8	190
Collections Acquisition.....	80	-	80
Total	<u>11,912</u>	<u>445</u>	<u>12,357</u>

Analysis of Increase

Necessary Pay.....	157
Inflation.....	103
Program Funds.....	185

ABSTRACT - The National Museum of American History (NMAH) collects and preserves the Nation's material culture, the artifacts that embody the national heritage of the United States. By carefully enlarging and preserving its collections and using them as a basis for exhibitions, educational programs, research, and publications, the Museum offers scholars and the public the opportunity to understand the history of the United States. In addition to the Mall building, the Museum maintains the exhibition "1876 Centennial," located in the Arts and Industries Building, and supervises the movement and care of objects stored in six buildings in Suitland, Maryland. For FY 1987, an increase of \$185,000 is requested to complete the production and installation of the exhibition

and related programs commemorating the bicentennial of the signing of the United States Constitution. Necessary pay of \$157,000 is required for existing staff and an amount of \$103,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The National Museum of American History possesses the largest and most diverse collection representing the heritage of the United States. Covering a wide spectrum of materials, sizes, and descriptions, these museum objects include railroad trains, automobiles, textiles, photographs, paintings, sculpture, paper materials, clothing and costumes, tools, power machinery, clocks, weapons, ceramics and glass, musical instruments, scientific instruments of all kinds, one million numismatic specimens, and 14 million stamps.

As custodian of these artifacts of American history, the Museum has the obligation to protect and preserve them for future generations. To that end, the Museum continues to work toward achieving a more comprehensive collections management program by integrating and improving its conservation, registrarial, object storage, archival, and other key collections management functions. Through the collections, as well as exhibitions and a wide range of programs including publications, lectures, symposia, concerts, public tours and demonstrations, and film and broadcast features, the Museum presents this Nation's history to more than five million visitors per year.

Exhibitions - The Museum's first major reinstallation of a permanent exhibition opened in November 1985. "After the Revolution: Everyday Life in America, 1780-1800" uses period settings to examine the daily routines and concerns of a Delaware farm family, a Massachusetts merchant, and a Virginia planter; community studies tell visitors about the African-Americans of the Chesapeake, the Seneca Nation of the Iroquois Confederacy in New York, and the urban world of Philadelphia. Based on years of research, "After the Revolution" is a major new interpretation of the diversity of the American people at our Nation's beginning.

In November 1986, the Museum will open its second major reinstallation of a permanent exhibition: "Engines of Change: The Industrial Revolution in America, 1790-1860." This exhibition will show how the Industrial Revolution in America brought new tools for transforming energy, new ways of organizing work, and a new entrepreneurial spirit to the United States.

Several new exhibitions opened in FY 1985, including "Eleanor Roosevelt: First Person Singular," which presented more than 100 photographs, objects, and documents, and explored the major influences and interests that shaped her life; "Bridges of Niagara," a traveling exhibition depicting the history behind the nearly 20 bridges built at Niagara Falls between 1848 and the present; "Celestial Images," another traveling exhibition, which displays and describes the history and use of astronomical charts that date from A.D. 1500 to 1900; "Discover Graphics," an exhibit of 40 color and black-and-white prints produced by Washington metropolitan area high school students who were participants in a unique seminar and studio training program on printmaking; "European Roots of American Pharmacy," an exhibition of selected objects from the Squibb European Pharmacy Collection, the largest and most valuable collection in North America of pharmaceutical artifacts from the 15th to the 19th centuries; and "History as Seen from the National Museum of American History," an exhibition that presented photographs by Smithsonian photographers of some of the most important celebrations and demonstrations on and around the Mall in 1984 and 1985. Through its "Case of the Month" exhibit program, the Museum was able to present 18 mini-shows, including "Running Fun: A Treasury of American Political Humor," "Stamp Collecting: King of Hobbies...Hobby of Kings," "The Americanization of the California Missions," "A Constellation of Black Sports Stars," "Thomas A. Edison: Documents and Artifacts," "Women in the Navy," "Ben Franklin and the Colonial Posts," and "Building the Bomb: Forty Years After Hiroshima."

Several new temporary exhibitions also opened in early FY 1986. In conjunction with the celebration of the Festival of India, "Aditi: The Monies of India" presents a broad survey of Indian history as reflected in this Museum's Indian numismatic collection, and "All Sorts of Painted Stuffs: Indian Chintzes and Their Western Counterparts" examines the use of Indian fabrics in the West and describes the impact of their popularity on the British and French textile industries. "Beyond the City Lights: American Domestic Gas Lighting Systems" explores the development of gas lighting and how it contributed to the first widespread illumination of America. "At Home on the Road" examines the enduring American urge to take to the highway by outlining the history of 19th-century leisure travel, presenting 20th-century innovations such as tourist travel by automobile, auto-camping and recreational vehicles, and looking at the ways Americans have managed to bring pieces of home with them on the road. Other exhibitions scheduled to open in FY 1986 include "Hollywood: Legend and Reality," a Smithsonian Institution Traveling Exhibition Service (SITES) exhibition, which will celebrate the creative achievement and cultural influence of American movies over the past 70 years; "Domestic Interiors" which will depict the major changes that occurred in the way Americans furnished their houses during the 1700s; "Graphic Arts: 100 Years," which will show the evolution of the Museum's graphic arts division and how it has interpreted what "Graphic Arts" meant, what a collection was, and how an exhibit was presented. "Patent Office," which will commemorate the 150th anniversary of the U.S. Patent Office; and "Reaching Rural America," which will highlight the growth and importance of rural free mail delivery in America.

With funding provided in FY 1985, a large part of the research and planning phases of the exhibition, "The Japanese-American Experience in World War II," was completed. Developed to celebrate the 200th anniversary of the signing of the Constitution in 1987, the exhibition will deal with the complex problems facing national and state decision makers during World War II, when they had to balance constitutional guarantees of civil rights against requirements for military security. The exhibition will particularly focus on issues of civil rights for Japanese Americans and on their patriotic contributions during World War II.

During FY 1984 and FY 1985, the Museum also shared some of its most valuable and treasured objects with an international audience. Benjamin Franklin's walking stick, models of Eli Whitney's cotton gin and the McCormick reaper, a silver tray owned by George Washington, even a 19th-century buckboard, among other objects, traveled to Scotland with the "Treasures of the Smithsonian" exhibition for the 1984 Edinburgh International Festival. The Smithsonian Chamber Players, a part of the Museum's Department of Public Programs, also performed at the Festival. In the same spirit, the Museum loaned the world's oldest operable locomotive, the John Bull; a patent model of an early Singer sewing machine; a compass carried by William Clark on the Lewis and Clark expedition; and several other invaluable objects, some never before exhibited outside the Museum, to the Dallas Arts District for its opening in the spring of 1985.

Master Space Planning Program for NMAH - In FY 1985, in collaboration with the Smithsonian's Office of Design and Construction, the Museum began its master space planning program, designed to document space requirements of the Museum both short- and long-term (the next 20 years). The plan breaks down into two main categories: program and support. The program needs under study include spaces for offices, exhibitions, storage, and other working spaces from which a variety of plans can be drawn. Support plans will be drawn up for utilities, heating, ventilating and air conditioning (HVAC) systems, security, fire protection, and other environmental improvements. Documenting program needs over the long-term should enable the Museum to define future space needs, put forward design options, and identify needed structures as far in advance as possible; the master plan will also permit the Museum to integrate support improvements into the plans for future programs so that these improvements do not interfere with exhibitions and public programs. The master plan also will include estimates of future long-term program and support funding needs.

Collections Management - In FY 1985, the Museum concentrated its efforts on maintaining the shelf survey of the collections (completed in 1983) while it set priorities and began to refine the data collected. To that end, the Office of the Registrar established an Office of Central Catalogue that supports the Museum's inventory maintenance, refinement, and collections research efforts. The Museum hired a director for its Office of Computer Services in FY 1985 and also upgraded and expanded its minicomputer system to provide more data, word, and network processing for its growing collections and new collections management needs. The Museum's Division of Conservation examined, rehoused, or treated more than 3,000 objects in FY 1985. Surveys were completed for more than 250 paintings in the Museum, work made possible by the additional positions received in FY 1985. Funding provided in FY 1985 for object storage equipment permitted the rehousing of severely overcrowded collections in four of the Museum's divisions. Major archival collections were organized and finding aids prepared during FY 1985. The Museum's Archives Center published an 89-page register to the George H. Clark Collection of Radio History materials (1880-1950), and organized, rehoused, and described in writing the finding aids of some 200 boxes of business ephemera in the Warshaw Collection of Business Americana. The Donald Sultner-Welles collection of approximately 100,000 color transparencies is also being prepared for use by researchers. New positions provided in the FY 1985 budget have been instrumental in completing these projects.

In FY 1986, the Museum is making measured progress toward completing the refinement of its shelf survey data. A more complete description of the Museum's inventory accomplishments and goals is included in the Collections Management/Inventory Program section of this budget. In order to accommodate the various upcoming moves of collections, the Museum has begun to implement its new registration tracking system, and the Division of Conservation is accelerating its rehousing and stabilization treatment program for deteriorating objects identified in previous surveys.

The Museum's Archives Center is developing policies and procedures for archival storage, reproduction, and use of video tapes and audio tapes in the collections. The Center is also continuing to receive and care for additional manuscript collections from curatorial divisions.

Suitland Facilities and the Museum Support Center - In addition to its reference collections at the Mall building, the Museum stores more than one million objects in six buildings at the Institution's Suitland Facility. These buildings are contaminated by asbestos, as are the objects stored there. With funding provided by Congress in FY 1985 and FY 1986, a team of technicians was formed to begin a thorough cleaning program of both the objects and the buildings. A great deal of preliminary work has been accomplished including establishing a processing area and a clean work area; cleaning and reorganizing outside space for better storage; cleaning all the objects in one building; and acquiring a newly renovated building for storing oversized objects. In FY 1986, comprehensive cleaning of three more buildings and their objects is under way. The team is also preparing objects and their records for transfer to the new Museum Support Center.

In FY 1985, preliminary planning began for the movement of objects to the Museum Support Center. The Museum has already prepared some objects for transfer; purchased supplies and equipment; selected staging and storage areas; and identified recordkeeping and resource requirements. In FY 1986, the Museum will begin to survey the objects on the Mall as well as at the Suitland Facility; the staff will begin refining records, and moving, photographing, cleaning, packing, and storing these objects.

Research - As the result of research conducted by NMAH curatorial staff, the following works were published in FY 1985: The Great Rifle Controversy; Small Arms Today; Bibliography of C.F. Gauss; American Anthem: An Exhibit of Songs and Symbols

of American History; That's What She Said: Contemporary Fiction and Poetry by Native American Women; Organ Planning; Ragtime: Its History, Composers, and Music; Material Culture: The Shape of Things Around Us; and After the Revolution: The Smithsonian History of Everyday Life in the Eighteenth Century.

A dozen articles were also published including: "Museum Exhibits, Breaking the Silence," "Love at First Byte: Wordplay and Imagination in the New Machine Age," "The Atomic Clock from Concept to Commercial Product," and "At the Edge of Science: Joseph Henry, Visionary Theorizer and the Smithsonian Institution."

The Museum has sponsored or co-sponsored numerous symposia and seminars on such subjects as puppetry in the Federal Theatre Project and the Work Projects Administration, music in America, technology in the Industrial Revolution, Indian Museums, and the historical experience of the American Indian.

The Museum continues to provide support staff and space for the scholarly publication Technology and Culture, the official journal of the Society for the History of Technology, and provides assistance to American Visions, a magazine examining Afro-American culture, the first issue of which appeared in January 1986. The Museum's Afro-American Communities Project continues to develop a data base of social and economic information dealing with the structure and development of free black communities in ten U.S. cities prior to the Civil War.

Research Center - In FY 1986, the Museum will seek to establish a research center for the study of American history. This program will combine, in a more structured way, the existing research centers of the Museum--the Eisenhower Institute, the Afro-American Research Project, the Archives Center, and the journal Technology and Culture--with the relationships already established on an ad hoc basis with several universities. The center will promote new affiliations and provide encouragement and opportunity for intramural research, and its programs will be geared to the strengths of the Museum: the social history of science and technology; the intersections among political, social, and cultural history; and material culture. The new center will offer a regular program of seminars, and might include different seminars for undergraduates and graduates. The center will afford outside faculty the opportunity to teach, do research, and write in a new setting; offer university administrators the chance to attract more students; and enable the Museum to cultivate and enrich its research capacity.

Collections Acquisition - During FY 1985, the Museum received, through purchase or gift, a number of significant collections. Some of the acquisitions include: a late 19th-century cotton gin with gearing and gin house; a circa 1852 papier-mâché of a human body; two clockwork automata made in southern Germany in the 17th century; a colonial postal rate chart dated 1765, signed by Postmaster General Benjamin Franklin (believed to be the only such chart in existence); a wood and pewter schoolmaster's rod from the 18th century; a "Philadelphia" printing press, circa 1850, an iron hand-press made by Frederick Bronstrup; Woolworth Building structural drawings, 162 ink-on-linen tracings of the structural steel work for the first monumental skyscraper, the Woolworth Building in New York City, 1909-13; the NASCAR stock car that Richard Petty drove to his unprecedented 200th Grand National victory in 1984; and Benjamin Franklin's General Post Office Account, dated 1770 to 1772, written entirely in Franklin's own hand.

Public Programs - The Museum's Department of Public Programs provides visitors with a range of opportunities and incentives for learning. In the past few years, the Museum has experienced a significant increase in visitorship, and with the opening of the permanent exhibition, "After the Revolution: Everyday Life in America, 1780-1800," the Department expects heightened demands on all of its offices.

The education function of the Department is central to its overall mission, and its accomplishments can be measured in several ways. The Museum's Calendar of Events, produced by this Department and now in its second year of publication, reaches over 12,000 individuals and institutions on a quarterly basis providing accurate and timely information on Museum activities. Staff members from the Department of Public Programs introduce roughly 90,000 visitors to exhibitions and demonstrations in the Museum through school programs, tours, and Discovery Corners. More than 100,000 people attended Museum performance and film programs during the past year, and through radio broadcasts on National Public Radio and American Public Radio, an estimated five to six million listeners outside the Washington metropolitan area became familiar with this Museum and its activities.

The Department sponsored the Smithsonian Chamber Music Series, 28 concerts in all. Colloquia/concert programs such as "Jazz Improvisation," "Women in Blues," and "Black Classical Composers," contributed highly original scholarship to the exploration of black American Culture while strengthening the Smithsonian's outreach activities and minority awareness of the Museum. Other programs in collaboration with curatorial departments, universities, and educational organizations gave added depth to many exhibitions and enabled the Museum to offer educational presentations throughout its public spaces.

In FY 1986, the Department has continued to develop its broad array of programs. A new "Hands on History Room" in the "After the Revolution" exhibition offers visitors insight into the lives of 18th-century Americans by touching and working with accurate reproductions of 18th-century tools and objects and through other participatory experiences. The Department also will inaugurate the "Highlights of the Collections" popular booklet series. These illustrated booklets will describe specific objects and collections and give the public the opportunity to learn about some of the many important objects not on display in the Museum.

EXPLANATION OF PROGRAM INCREASE - Constitution Bicentennial (\$185,000) - In 1987, the Nation will celebrate the 200th anniversary of the signing of the United States Constitution. The Museum will commemorate this occasion with a special exhibition scheduled to open in September 1987 presenting the process of Constitutional growth and change as exemplified by the experience of the Japanese American community.

Occupying more than 4,000 square feet, the exhibition will focus on Japanese immigration to the United States; early restrictions on citizenship based on racial prejudice; the relocation program of World War II; the combat record of the Japanese Americans; and the resolution of the basic Constitutional issues after 1945. This study of the experience of one immigrant group provides an ideal means of portraying the Constitution as a dynamic document capable of growth and interpretation to accommodate or accelerate social change.

In addition, work on this exhibition has given the Museum an opportunity to strengthen its collection of objects related to ethnic history. These acquisitions reaffirm our commitment as an institution with an interest in portraying the contributions of all Americans to our rich heritage.

With funding provided by Congress in FY 1985, a large part of the research and planning phases of the show was completed. An exhibition currently on display in California will provide some of the material and objects for the show, with the remaining items to be loaned by individuals. An audio-visual system using the latest video disc technology is being designed as well. In FY 1986, with additional funding provided by Congress, the Museum will be able to complete artifact, graphic, and film research phases, cover the cost of the initial contracts for the exhibition's design, and continue the work associated with the show's audio-visual presentation. In addition, the space needed for the exhibition will be created by dismantling and reorganizing exhibitions in

the Museum's third floor Ordnance Hall. Ordnance collections are being temporarily displaced and will be reinstalled on a mezzanine.

For FY 1987, the Museum requires an increase of \$185,000 over the FY 1986 base of \$265,000, to finish the exhibition and related work. From the outset, the Museum had planned on its major reinstallation program to support much of the demolition and construction work. This assumption was based on having by now a substantially larger reinstallation budget which could accommodate production of more than one major installation at a time through existing production capabilities. Unfortunately, budget restrictions have kept the reinstallation program funded at a level which both precludes having all the necessary production capability and which dictates a slow pace; thus the need for the additional support. With this total of \$450,000 the Museum will be able to complete the project on time.

During this final year of preparation for the exhibition, hundreds of objects will be borrowed from museums and organizations in Hawaii and California. Many of these objects will require extensive conservation work before they can be exhibited. The exhibition's design will be finalized and the demolition and construction work completed. An extensive audio-visual system will also be purchased and installed.

Finally, a small portion of these funds will be expended for the completion of a mezzanine unit to house the National Fire Arms Collection. This collection had been displaced in order to create space for the exhibition. The mezzanine provides 2,000 square feet of collections storage space in addition to accommodating the Fire Arms Collection.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - This income is derived from a variety of sources including the Museum's share of sales in the Museum Shop/Bookstore, cafeteria concession, product development activities, and publication royalties. In FY 1986, these funds are being used to support the salary costs for the positions of museum director and a graphic designer, care of the furniture collection and the cost of cataloguing and otherwise making accessible for research the Sultner Photographic Collection. Purchases for the collection, supported by allotments in FY 1985, included the Bradford Cup, which was made in London in 1634 and belonged to William Bradford, a passenger on the Mayflower and later governor of the Plymouth Colony.

Assistance was provided in FY 1985 to the American Visions Foundation, Inc., for American Visions, a magazine about Afro-American culture. Funds also were provided in FY 1985 and will be provided for FY 1986 for the Museum's Chamber Music Players to support a special performance and recordings program.

Special purpose funds include those from the Institution's Collections Acquisition, Scholarly Studies and Educational Outreach Program, the Research Opportunities Fund and the Special Exhibition Fund which helped support NMAH programs in the areas of affirmative action, scholarly publications, research and exhibitions. Of special note were research and planning support for the exhibition "Field to Factory: Afro-American Migration 1915 - 1940" which will portray the movement of hundreds of thousands of Afro-Americans from the southern states to northern urban centers during and after World War I; support for establishing an American Indian program initiative; and a cooperative education program. Expenditures under this Program, the Research Opportunities Fund, and the Special Exhibition Fund, totaling \$166,000 in FY 1985, have not been recorded for FY 1986 and FY 1987 which explains the variance in totals shown for these years.

Restricted Funds - Individual or corporate gifts and foundation grants are the principal sources of income under these funds. In FY 1985, a number of exhibitions and

special projects received support. One hundred thousand dollars in the form of a general gift was received from Tramell Crow and Associates. These funds are largely being used to support the education programs associated with the Museum's first major reinstallation of a permanent exhibition, "After the Revolution: Everyday Life in America, 1780-1800." IBM Corporation provided two grants (\$20,000 and \$25,000) for the research work needed for planning an information exhibition. The Goldsmith Foundation provided \$43,000 for a project entitled "Study, Recording, Publication, and Exhibition of Smithsonian Ethnographic Judaica."

The Pepsi Cola Company gave a second gift of \$8,000 in support of a special oral history project they had initiated with funding in FY 1984. In FY 1986, the Museum will receive the first installment of a grant of \$592,000 from DuPont, which will be the principal support for another of the Museum's major permanent exhibition reinstallations. The exhibition, entitled "Materials," deals with the vast range of natural and synthetic materials as well as the social and economic consequences of their distribution and manufacture within the United States.

Federal Grants and Contracts - The Museum received a grant from the National Historical Publications and Records Commission of \$47,000 to fund the Robert Mills Project, a research and publications endeavor focused on assembling and publishing the complete papers and drawings of Robert Mills, the nation's first native-born and trained professional architect.

NATIONAL MUSEUM OF AMERICAN ART

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FUNDS		& CONTRACTS	
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	115	4,625	-	63	4	551	-	315	-	2
FY 1986 -Base	118	4,793	-	45	4	171	-	760	-	-
-PL 99-177***		4,600								
FY 1987 Estimate	118	4,959	-	47	4	177	-	394	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	118	-	118
11 Personnel Compensation.....	3,229	48	3,277
12 Personnel Benefits.....	332	7	339
21 Travel.....	54	2	56
22 Transportation of Things.....	61	2	63
23 Rent, Communications & Utilities....	36	2	38
24 Printing & Reproduction.....	125	5	130
25 Other Services.....	323	58	381
26 Supplies & Materials.....	267	12	279
31 Equipment.....	97	19	116
Collections Acquisition.....	269	11	280
Total	4,793	166	4,959

Analysis of Increase

Necessary Pay.....	55
Inflation.....	51
Program Funds.....	60

ABSTRACT - The National Museum of American Art (NMAA) is devoted to the acquisition, preservation, study, and exhibition of American painting, sculpture, graphic arts, and crafts. The Renwick Gallery, which operates under the purview of the National Museum of American Art, exhibits American crafts, as well as decorative arts and design. The Barney Studio House, with a part-time curator paid from an endowment, is also maintained by the Museum as a period home open for tours and for special interpretive programs. For FY 1987, an increase of \$60,000 is requested to continue development of the Inventory of American Sculpture. Necessary pay of \$55,000 is required for existing staff and an amount of \$51,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The National Museum of American Art's collection represents American art from its beginnings to the present and serves as the basis for active programs of research, exhibition, and public education. The permanent collection includes over 32,000 objects and continues to grow at a rate of approximately 1,000 new acquisitions each year. A portion of the permanent collection is on view to the public on a rotating basis in the Museum's galleries. The balance is available for study in storage or on loan to selected museums and university galleries throughout the country. Preservation and restoration of irreplaceable American art works also are important features of the Museum's mission. Scholarly research performed by the professional staff results in publications, exhibitions, and educational programs which further the understanding of American art and artists.

The Museum's reference materials are used by both lay and scholarly researchers from a wide variety of disciplines. Unique among the Museum's research resources are the Inventory of American Paintings Executed Before 1914; the Smithsonian Art Index, which lists art works housed in the Institution's nonart museums; and the Index of Pre-1877 American Art Exhibition Catalogues, which documents artistic activities in this country and Canada. These inventories comprise more than 500,000 computer entries, and constitute the most complete data base on the subject of American art in existence.

Collections - In FY 1985, the Museum was given two large and important collections of 20th-century art. The Container Corporation of America donated 311 paintings, sculptures, and graphic artworks from the 1933-1980 period, including major objects by many established masters. Selections from this celebrated collection were shown in a special exhibition in late 1985 and will travel to at least two other locations. The second major collection, donated by the Sara Roby Foundation, includes 169 paintings, sculptures, and drawings by artists who worked from the 1920s through the early 1980s. This collection is especially strong in figurative art and will substantially enrich the Museum's holdings in this area. The collection will be unveiled in a public exhibition in January 1987. In addition to these major gifts, the Museum received a gift of woven objects by Anni Albers.

During FY 1985, the Museum purchased significant individual works. Among these are Achelous and Hercules, a 24-foot mural by Thomas Hart Benton, and important paintings by William Morris Hunt, Edward Bannister, Charles Sprague Pearce, Peter Blume, Lorser Feitelson, and Albert Gallatin. The Museum's newest area of collecting--American photography since World War II--grew through the addition of key photographs by Aaron Siskind, Carl Chiarenza, Gary Winogrand, Arthur Ollman, Ray Metzker, and others. Significant woven objects by Cynthia Schira, and Clare Zeisler were purchased for the Museum's crafts collections.

As in the past, the Museum benefited in FY 1985 from the transfer of contemporary works on paper and sculpture maquettes from the National Endowment for the Arts and the General Services Administration, respectively.

In FY 1986 and FY 1987, the Museum will continue to seek major works by artists inadequately represented in the collection, and will maintain its tradition of acquiring high-quality works by artists who have had a significant effect on the development of American art. In January 1986, the Museum accessioned William Rush's Model by Thomas C. Eakins, an acquisition made possible by a gift from Mr. and Mrs. R. Crosby Kemper, Jr.

The preservation, management, and security of the collections remain central concerns of the Museum. More than 400 objects were treated by the conservation staff during FY 1985. The Museum staff also attended professional workshops on security and began a long-range program to increase its protection of objects in storage and on exhibition.

Publications - The National Museum of American Art's new acquisitions and on going exhibition programs continue to generate significant research which lead to publication. In FY 1985, the following major catalogues were published: Sharing Traditions: Five Black Artists in Nineteenth Century America; The Martha Jackson Memorial Collection; Creation and Renewal: Views of Cotopaxi by Frederic Edwin Church; The Woven and Graphic Art of Anni Albers; and Werner Drewes: Sixty-Five Years of Printmaking. In FY 1986 the Museum will publish two major contributions to American Art: A documentation of 81 of the Museum's greatest objects and The Art of New Mexico, 1900-1945. Research has also been carried out on objects in the permanent collection, particularly on recent acquisitions. Preliminary research has begun for future exhibitions of the art of Albert Pinkham Ryder and Gene Davis. Additional research and publication projects now in progress include a revised edition of the catalogue raisonne of works by Mary Cassatt, a catalogue raisonne of the art of Joseph Cornell, a book on the sculpture of Paulanship, and a study of the experience of 19th-century American artists who studied in French academies.

Research - Research resources at the Museum continue to provide unparalleled opportunities for scholars of American art. In preparation of a national Inventory of American Sculpture, which will be comparable to the Museum's Inventory of American Paintings, a one-year pilot project is under way to automate the University of Delaware's Index of American Sculpture. The Delaware Index is currently the only substantial repository of information on public sculpture and works in museum and private collections. By automating the Index's manual records, the Museum will develop critical formats and standards for handling research information on sculpture. With future funding, efforts will continue to seek and record sculpture in public and private collections throughout the United States. The Museum has received enthusiastic letters of endorsement and offers of assistance from museums, conservators, historical societies, and individuals throughout the country who are interested in contributing to the program.

Throughout FY 1985, the National Museum of American Art continued to augment its other research resources, adding roughly 7,200 slides and over 8,000 prints to its Slide and Photograph Archives. An additional 6,000 nitrate negatives from the Museum's collection (taken by Peter A. Juley, the noted photographer of works by American artists), were converted to stable film. The Inventory of American Paintings, the only existing national census of paintings, added 10,000 records and is now serving over 1,500 requests a year, ranging from interdisciplinary queries to art publication and exhibition research.

Exhibitions - Exhibition programming during FY 1985 featured works from the Museum's collections as well as exhibitions featuring the work of specific artists and thematic topics pertaining to the history of American art. The following exhibitions were circulated to other museums across the United States: "Sharing Traditions: Five Black Artists in Nineteenth-Century America"; "Wood Works: Constructions by Robert Indiana"; and "The Woven and Graphic Art of Anni Albers." The Museum's earlier exhibition, "Exposed and Developed: Photography Sponsored by the National Endowment for the Arts," continued to tour.

"Treasures of the National Museum of American Art," an exhibition of some of the finest works in the Museum's permanent collection, will travel nationally to five major cities during FY 1986 and FY 1987. The tour will afford exposure to the Museum's collection in areas of the country where it has been relatively unknown. All costs of the exhibition's organization and travel will be underwritten by United Technologies Corporation.

Future exhibitions will include "The Art of New Mexico: Themes and Perspectives," "Gene Davis Memorial Tribute," "American Prints from Washington Collections," "Post Office Murals and Studies," "The Art of John LaFarge," and "American Art Deco," as well as the previously mentioned exhibitions featuring the Sara Roby Foundation Collection.

Also in FY 1985, the National Museum of American Art lent more than 300 artworks from its permanent collection to other museums and organizations in the United States and abroad for temporary exhibition and display. Within the Museum the permanent collection continues to be the focus of small changing exhibitions, such as "Zoo to Art: Animal Subjects by American Sculptors."

Interpretive Programs - The Museum presents scholarly programs coincident with current exhibitions, such as the symposium "Creation and Renewal: Views of Cotopaxi by Frederic Edwin Church," as well as diverse educational activities such as lectures, performances, films, and related programs which complement exhibitions and enrich the learning experience of the Museum's visitors. In addition to a broad spectrum of educational programs for the scholarly community and the general public, the National Museum of American Art has assumed a national as well as local role in the fostering of art education. In January and February 1985, the Museum presented a "Festival of Afro-American Arts" to supplement the exhibition "Sharing Traditions: Five Black Artists in Nineteenth-Century America." As the exhibition travels nationally, under the auspices of the Smithsonian Institution Traveling Exhibition Service, many of the programs presented at the Museum are being repeated in the cities in which the exhibition is being shown. The exhibition is accompanied by a packet of interpretive materials specifically designed for use by teachers and their students.

In FY 1986, the National Museum of American Art will continue its interpretive programs which highlight the permanent collection and temporary exhibitions. For example, a series of "conversations with artists" featuring living American artists whose work is represented in the permanent collection will be presented at the Barney Studio House.

EXPLANATION OF PROGRAM INCREASE - Research (\$60,000) - For FY 1987, an increase of \$60,000 is requested to continue development of the Inventory of American Sculpture. In response to a nationwide appeal three years ago from educators, cultural historians, conservators, collectors, curators, and scholars, the National Museum of American Art began work on a comprehensive registry of American sculpture, which supplements its renowned and widely used Inventory of American Paintings Executed before 1914. As a test vehicle the Museum is currently developing standards for, and placing on computer format, the 14,000-record card file on American sculpture at the University of Delaware. Once this is completed, the Museum will begin an intensive national survey to locate and document all American sculpture in public and private collections, and in interior and outside locations. No systematic or substantial inventory has ever been taken of the bronze and marble statues in the parks and town squares across the Nation.

The National Museum of American Art has been asked to conduct the nationwide survey due to its commitment to research in the study of American art and the worldwide recognition it enjoys for having pioneered the only existing census of American paintings. The sculpture inventory will be similar to the paintings inventory in its indexing by computer owner/location, subject matter, artist, title, medium, dimensions, and other pertinent data for each work. Using the original methodology developed for the Inventory of American Paintings, the sculpture inventory will be implemented by: 1) soliciting information by means of questionnaires mailed to museums, collectors and governmental agencies utilizing the mailing lists, sources, and contacts developed for the Inventory of American Paintings; 2) extracting information from published sources on sculpture (collection, exhibition, and auction catalogues); and 3) conducting field surveys throughout the country to locate and document works of sculpture. Volunteer assistance will be organized and used whenever possible.

The Inventory of American Sculpture would benefit a large constituency, including state and local art councils, curators, educators, art scholars, conservators, authors, publishers, historians, collectors, civic groups, and the public in general. In addition, a study of the state of the Nation's sculptures, which are being threatened by the effects of acid rain and air pollution, is the necessary first step toward conservation of America's public monuments.

As well as establishing the first resource of its kind for sculpture, the project will serve as a unique form of educational outreach bringing citizens together on the community level to seek and identify local statues and memorials honoring great men and women, forgotten heroes, and battles. As information is gathered across the country, it will be entered in the research data base on the Smithsonian Institution's Bibliographic Information System where it will eventually be accessible to scholars and the general public, either at the Smithsonian or from anywhere in the country via a home computer or other remote terminal.

After completion of the national survey, the National Museum of American Art will maintain this project from its base resources. The Museum has already received letters of support from institutions and individuals throughout the country expressing their desire to participate in the first study of the location and plight of America's monuments; the light these works shed on the history of the United States; the Nation's preferences in taste and subject matter; and of the evolution of sculpture in America as an art form.

An increase of \$60,000 would allow the project to proceed steadily. Of this amount, \$45,000 will be used to contract three data technicians to convert information from the ongoing nationwide survey to the Smithsonian's research data base. The remaining \$15,000 will cover the cost of initial computer equipment for data entry (two terminals) and Smithsonian Institution Bibliographic Information Systems cost center charges to maintain the data base on-line. In future years, \$10,000 for equipment will be reprogrammed for additional contract work.

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 restaurant and museum shop; allotments for special purposes; royalties from publications; sales of slides and photographs; honoraria received by staff while on official duty; participation fees from museums to which National Museum of American Art exhibitions are lent; and tuition reimbursement from universities for NMAA interns. Funds are used to support publications, traveling exhibitions, and public programs; curatorial research and travel; stipends for summer interns; purchase of photographic supplies; travel costs for meetings of the National Museum of American Art Commission; repairs to the Barney Studio House; and special events for the opening of new exhibitions. Starting in FY 1984, through an agreement with the J. Paul Getty Center for the History of Art and the Humanities, Special Purpose funds have been used to continue the preservation project of the Juley Collection until its anticipated completion in FY 1989 (estimated expenditures of \$62,000 in FY 1986, and \$67,000 in FY 1987). In FY 1985, funds from the Institution's Collections Acquisition, Scholarly Studies and Educational Outreach Program were used to purchase a 24-foot mural, Achelous and Hercules by Thomas Hart Benton, and funds from the Special Exhibitions Fund were used to support "Art Design and the Modern Corporation," an exhibition of 150 art works selected from the recently donated collection of the Container Corporation of America. Expenditures under these programs, totaling \$466,000 for FY 1985, have not been recorded for FY 1986 and FY 1987 which explains the variance in totals shown for these years.

Restricted Funds - These funds are contributed for specific purposes in the form of gifts and grants from individuals, foundations, or corporations. Funds are available to support curatorial and programmatic activities of the Barney Studio House (expenditures of approximately \$35,000 annually). With support from the Robert Tyler Davis Bequest, prints and drawings continue to be purchased for the permanent collection (estimated expenditures of \$10,000 in FY 1986 and in FY 1987). Other significant uses of restricted grants and gifts are for the support of publications, such as The Graphic Art of Mary Cassatt and Sculpture and the Federal Triangle, and for the support of programs, video tapes, and other activities of specific exhibitions, including "Sharing Traditions: Five Black Artists in Nineteenth-Century America"; "Reuben Nakian: Apprentice to the Gods"; and "Life: The Second Decade 1946-1955." In FY 1985, refurbishment began on the Doris M. Magowan Portrait Miniature Gallery and should be completed during FY 1986 (estimated expenditures of \$57,000 in FY 1986). In FY 1985, funds were obtained to begin work on an Inventory of American Sculpture pilot project (\$62,000), the "Treasures of the National Museum of American Art" exhibition (estimated expenditures of \$97,000 in FY 1986 and \$57,000 in FY 1987), and the "Art of New Mexico" exhibition (estimated expenditures of \$136,000 in FY 1986). In addition, the Museum was fortunate to acquire recently a painting of William Rush's Model by Thomas C. Eakins (estimated expenditure of \$250,000 in FY 1986 and FY 1987).

NATIONAL PORTRAIT GALLERY

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds		Amount	
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	82	3,407	-	13	4	122	2	192	-	-
FY 1986 -Base	83	3,591	-	18	-	104	2	158	-	-
-PL 99-177***		3,446								
FY 1987 Estimate	83	3,770	-	18	-	88	-	126	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	83	-	83
11 Personnel Compensation.....	2,165	44	2,209
12 Personnel Benefits.....	275	7	282
21 Travel.....	23	1	24
22 Transportation of Things.....	107	5	112
23 Rent, Communications & Utilities....	21	1	22
24 Printing & Reproduction.....	101	4	105
25 Other Services.....	226	105	331
26 Supplies & Materials.....	216	8	224
31 Equipment.....	94	4	98
Collections Acquisition.....	363	-	363
Total	<u>3,591</u>	<u>179</u>	<u>3,770</u>

Analysis of Increase

Necessary Pay.....	51
Inflation.....	48
Program Funds.....	80

ABSTRACT - The National Portrait Gallery (NPG) provides a focus for the exhibition and study of portraits depicting men and women who have made significant contributions to American history, development and culture, and of the artists who created such portraiture. For FY 1987, an increase of \$80,000 is requested to fund initial planning and research for an exhibition celebrating the Bicentennial of the United States Constitution. Necessary pay of \$51,000 is required for existing staff and an amount of \$48,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The arts of portraiture and biography are the means by which the Gallery offers a continuing exploration of the heritage and accomplishments of the American people. The Gallery collects, studies, preserves, and exhibits portraits in all media as both historical and artistic documents.

The growth of NPG's collections entails a great responsibility for research into, and careful conservation of the objects acquired. Research results are published by curators and historians in articles, monographs and exhibition catalogues. The collections, which are exhibited continuously in a series of galleries, are cared for by professional conservators on the Gallery's staff. The Gallery also organizes a schedule of popular and scholarly temporary exhibitions on a wide variety of subjects. Each exhibition is accompanied by an illustrated catalogue and usually incorporates materials borrowed from museums throughout the country and abroad.

Collections - In FY 1985, the Gallery purchased more than 100 works and received approximately 75 gifts. Notable among the painted portraits were Gilbert Stuart's portrait of the Revolutionary War and War of 1812 officer William Hull, composer Virgil Thompson by the late Alice Neel, writer Dashiell Hammett and singer Lena Horne by Edward Biberman, and artist Frank Duveneck's self-portrait. Major prints and other paper works included images of artists Thomas Hart Benton and John Steuart Curry; a multiple in cast paper of composer Philip Glass by Chuck Close; a Covarrubias caricature of collector Chester Dale; Ben Shahn's drawing of atomic physicist J. Robert Oppenheimer; as well as a rare broadside advertising a \$100,000 reward for John Wilkes Booth and his accomplices. Among the outstanding photographs acquired were the portraits of photographer Edward Steichen by Heinrich Kuhn; two portraits of Edward Everett by the Scottish photographers Hill and Adamson; a tintype of James Butler ("Wild Bill") Hickok; authors Tennessee Williams and S. J. Perelman by Irving Penn, composer Aaron Copland by George Platt Lynes; entertainer Gypsy Rose Lee by Ralph Steiner; and photographer Diane Arbus by Gary Winogrand. In FY 1986, fund raising has been initiated to enable the Gallery to purchase the portrait of editor Talcott Williams by Thomas Eakins.

Exhibitions - During FY 1985, the National Portrait Gallery's exhibition program was distinguished by diversity and scholarship and reflected the Gallery's study of significant Americans and the artists who portrayed them.

The exhibition, "Baseball Immortals, 1905-1935: The Photographs of Charles Martin Conlon," was opened in October 1984 by diamond greats Leo Durocher, Bill Terry and Lefty Gomez. The photographs in the exhibition were selected from nearly 7,000 glass plate negatives in the collection of The Sporting News, the Nation's oldest sports publication. The exhibition is being circulated by the Smithsonian Institution Traveling Exhibition Service.

In November 1984, the witty and amusing caricatures of Mexican artist Miguel Covarrubias were presented. The talented Covarrubias came to live in New York City in the early 1920s and his visual comments on the American cultural scene were published in The New Yorker and Vanity Fair. Original drawings and paintings for both previously published and unknown caricatures were exhibited. Part of this exhibition was sent to the San Angelo Museum of Art in Texas for its inaugural show in February 1985.

Concurrent with the Covarrubias exhibition was the "Metropolitan Opera Centennial: A Photographic Album," a selection of 100 images chronicling great moments in the history of that institution.

In January 1985, the exhibition "Peace and Friendship: Indian Peace Medals in the United States," was opened, which illustrated the significant role that medals played in relations between Native Americans and United States Presidents. This is the first time that examples of all the peace medals issued by the United States Government have been

brought together. The exhibition will be shown at the Buffalo Bill Historical Museum in Cody, Wyoming, the Joslyn Museum of Art in Omaha, Nebraska, and the Denver Museum of Natural History.

In February 1985, two enlightening exhibitions opened. "Joseph Wright, American Artist, 1756-1793," examined the work of a man who, in his brief career, achieved many firsts. Wright was the first American-born artist to study at London's Royal Academy, the first to sculpt George Washington, and the first engraver to the United States Mint. "Thomas Paine: A Hero Scorned," included sculpture, prints, books, cartoons and paintings relating to Paine's career as a political and social reformer, and to the vicissitudes his reputation underwent in America and abroad.

In April 1985, two exhibitions of mid-19th-century American portrait artists were presented: "A Truthful Likeness: Chester Harding and His Portraits" and "William Edward West, 1788-1857, Kentucky Painter." The examination of these neglected artists underscored the richness and diversity of their portrait work. The West exhibition was on view at the Lauren Rogers Museum, Laurel, Mississippi, during the summer of 1985, and in the autumn both the Harding and West exhibitions moved to the J. B. Speed Museum in Louisville, Kentucky.

In July 1985, an exhibition on Ulysses S. Grant commemorated the centennial of his death. The exhibition, which focused on Grant's role as soldier and president, was jointly organized by the Gallery and the Lyndon Baines Johnson Presidential Library in Austin, Texas, to which it moved at the close of its Washington, D. C. showing. An exhibition of prints featuring family portraits of famous 19th-century individuals opened in August 1985, as did "Women on TIME" which was installed in the room devoted to TIME cover originals.

Exhibitions scheduled for FY 1986 include photographs by Mathew Brady from the collection of Harvard University and the portrait sculpture of Gaston Lachaise and John Frazee. Research has begun on exhibitions to be held in FY 1987 and FY 1988, including "On the Air: Pioneers of American Broadcasting," "The Portraits of Henry Inman," "The Portrait in America from 1700 to 1776," and masterpieces from the national collections of Sweden.

Publications - Most of the publications of FY 1985 were generated by research for the exhibitions. Brochures for "Baseball Immortals, 1905-1935: The Photographs of Charles Martin Conlon," were produced, and catalogues to accompany the exhibitions on Miguel Covarrubias, Indian Peace Medals, Joseph Wright, William Edward West, Chester Harding, and Ulysses S. Grant were prepared. FY 1986 exhibition catalogues will include those for Gaston Lachaise and John Frazee. The Indian Peace Medals, William Edward West, and Miguel Covarrubias catalogues have received awards in recognition of the high quality of their design in this year's American Association of Museums' Museum Publications Competition, as has the National Portrait Gallery's quarterly Calendar of Events. The Smithsonian Institution Press is handling trade distribution of the Miguel Covarrubias and Chester Harding catalogues, while the Southern Illinois University Press is undertaking the distribution of the Ulysses S. Grant exhibition catalogue.

Funding from the T. M. Evans Foundation, Inc. has been obtained to produce a new format for the descriptive brochure of the National Portrait Gallery. In FY 1985, a favorable reader's report was received by the Yale University Press, which set in place the publication of volume 2 of the Selected Papers of Charles Willson Peale and His Family. This large volume--which will be published in two parts--will be entitled Charles Willson Peale: The Artist as Museum Keeper, 1791-1810. In July 1985, the copy-edited manuscript was received from Yale University Press and illustrations and maps for the volume have been selected and prepared by the Peale Papers staff. Work has also begun on volume 3--The Artist in Retirement, 1810-1820. Currently being produced are

The Portrait Engravings of C.B.J.F de Saint-Memin (in a copublishing arrangement between the Smithsonian Institution Press and the Barra Foundation) and a new edition of the Permanent Collection Illustrated Checklist.

Education - The National Portrait Gallery's public education program combines a daily schedule of docent-led tours and an array of intensive school and senior citizen outreach programs (such as a musical tribute to Cole Porter) conducted by trained education aides and docents. The Education Department's "Portraits in Motion" series of biographical dramatic presentations continues to provide highly popular programming. The "Lunchtime Lecture" series, has continued to grow in popularity and to draw both regular followers and new visitors who are interested in the specific topics being presented. The Department has begun planning ways to increase the use of special exhibitions by school groups and to investigate ways to serve the "gifted and talented" school audience. The Department continues to experiment with its own programs. For example, local junior high school students have been trained to interpret the NPG collections for their fellow students. Due to the increased educational activity over the past several years, the Department has reorganized its programs to assure the maintenance of high quality presentations. The Education Department hopes to develop an ongoing film and video project, and to schedule lectures and symposia directly related to the Gallery's special exhibitions.

Research - In FY 1985, the American Art/Portrait Gallery (AA/PG) library received a grant from the Women's Committee of the Smithsonian Associates to assist in organizing the Edgar Preston Richardson vertical file collection which was given to the AA/PG library in 1984 by Mrs. Richardson.

The AA/PG library is participating in the Smithsonian Institution Bibliographic Information System (SIBIS). Other Smithsonian units and the general public have access to the shared library on-line catalogue from SIBIS terminals and from other telecommunication vehicles. However, some 4,000 titles of early publications are still in Dewey Decimal classification and accessible only through the traditional card catalogue. Efforts will be made in the coming year to convert these records to the Library of Congress classification and into machine readable form.

The national portrait survey of the Catalogue of American Portraits continued in FY 1985. This survey, which is in its seventh year, is being conducted by a research center within the National Portrait Gallery. Field research in Texas, Oklahoma, and New Mexico, which will add approximately 1,500 additional portrait records to the Catalogue, will continue. By the end of this fiscal year some 26,000 records will have been processed and entered into the computer. In addition to facilitating the response to daily inquiries from museum professionals and the general public, the Catalogue has played an important role in securing materials for major studies of Raphaele Peale, Henry Inman, Anders Zorn, and Frank Duveneck. This information has been of great use in establishing the groundwork for an exhibition of American portraiture from 1700-1776.

FY 1985, the Catalogue of American Portraits acquired two microcomputers. This has permitted direct entry of Catalogue information into the central record. In addition, the on-line capability afforded by the microcomputers allows the Gallery to provide better service to the public through increased accuracy and currency of information. Processing collected field data will continue, as will field survey work, to the extent that funds are available.

EXPLANATION OF PROGRAM INCREASE: Exhibitions and Performances (\$80,000) - For FY 1987, an increase of \$80,000 is sought to fund initial planning and research for a major exhibition in commemoration of the Bicentennial of the United States Constitution. The exhibition, which is scheduled to open in the spring of 1988, is titled "Portraits of Distinguished American Jurists." A second exhibition commemorating the Bicentennial of

the Constitution, "The Portrait in America from 1700 to 1776" is planned for FY 1988 and is expected to be funded through the Institution's Special Exhibition Fund.

"Portraits of Distinguished American Jurists" will feature a selection of the most historically enlightening portraits of prominent members of the legal profession from the early years of our Nation's history to the present. While the primary purpose of this exhibition is to highlight images of individuals who have been pivotal interpreters and shapers of our legal institutions, the exhibition also will attempt to capture some sense of the backdrop against which the jurists acted and the circumstances surrounding the evolution of this country's legal processes and institutions. In addition, the exhibition promises to be a visually engaging survey of American portraiture as the portraits of these jurists tend to be of unusually good quality.

The Gallery has contacted other institutions regarding the possibility of borrowing works for this show. Among the institutions which have been approached is the Harvard Law School, which houses one of the oldest and largest collections of portraits of noteworthy lawyers in this country. The Harvard Law collection is a resource that until now has remained largely unknown and this exhibition will afford the public the rare opportunity to enjoy these treasures. In tandem with the exhibition, the Gallery will produce a catalogue, which will contain not only reproductions of objects featured in the show, but will include a text chronicling some of the most significant chapters in the history of American law. The exhibition is scheduled to open in the spring of 1988.

In FY 1987, \$80,000 is requested to fund the early preparations for this Bicentennial exhibition: \$50,000 will fund typesetting and publication costs of the catalogue, and \$30,000 will be used for shipping and registrarial services. The total cost of the exhibition is expected to be approximately \$200,000.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from several sources including the Gallery's share of sales in the restaurant and museum shop; sales of photographic reproductions of portraits in the collection; staff honoraria; and participation fees from museums to which National Portrait Gallery exhibitions are loaned. These funds are used to help defray the expenses of public lectures, symposia and special events in coordination with the opening of exhibitions; associated costs of loan exhibition development and management; and for the research expenses of staff who are preparing special publications or lectures. In addition, the Institution's Research Opportunity Fund and Special Exhibition Fund supported research and exhibition projects. In FY 1985, the total funding from these programs amounted to \$16,000, providing support for four research projects and the exhibition "The Portrait in America from 1700 to 1776."

Restricted Funds - These funds are provided for specific purposes in the form of gifts and grants from individuals, foundations, organizations or corporations. The Catalogue of American Portraits is currently in the seventh year of a nationwide survey of American portraits. A grant of funds (\$325,000) from the Andrew W. Mellon Foundation in 1977 made possible the implementation and continued operation of this extremely important project.

The Carter Inaugural Committee provided \$15,000 toward the purchase of the portrait of President Carter in the Oval Office by Robert Templeton. Several other acquisitions were made possible by generous contributions from the Barra Foundation, The New Republic, Inc., Katie Louchheim and the CBS Television Network, and included a cabinet photograph of S. L. Clemens, Lena Horne by Edward Biberman, the Thomas Wentworth Higginson daguerreotype, and a large handmade paper print of Philip Glass by Chuck Close.

Support for the exhibition "A Truthful Likeness: Chester Harding and His Portraits" was provided by Harding descendants, Margaret L. Smith and Chester H. Lasell.

The Sporting News Publishing Co. and the Eastman Kodak Co. cosponsored the exhibition "Baseball Immortals, 1905-1935: The Photographs of Charles Martin Conlon." The Lilly Endowment, Inc. and Gulf States Paper Corporation provided partial support for the opening of the exhibition "Peace and Friendship: Indian Peace Medals in the United States." While Merrill Lynch contributed toward the Covarrubias exhibition, the publication of the Covarrubias catalogue was made possible by an earlier grant from the Swann Foundation for Caricature and Cartoon.

Mr. Paul Mellon graciously contributed a partial subvention and the Barra Foundation has promised support for the publication, The Portrait Engravings of C.B.J.F. de Saint-Memin. The publication of this book culminates many years of research on the superb group of de Saint-Memin portraits that Mr. and Mrs. Mellon made available to the Gallery in 1974. The T. M. Evans Foundation contributed \$15,000 for publication of the National Portrait Gallery brochure. In addition, the Lyndon Baines Johnson Presidential Library, through the LBJ Foundation, will provide the \$10,000 needed to produce the Ulysses S. Grant exhibition catalogue.

In FY 1985, the Gallery received the first installment of a grant from the Lachaise Foundation in support of the exhibition and catalogue on the portrait sculpture of Gaston Lachaise. The Gallery also received substantial contributions for future activities and general support from the Clarence and Jack Himmel Foundation, the Ruth and Frank Stanton Fund, Robert L. McNeil, Jr., and smaller gifts from a number of individual donors.

HIRSHHORN MUSEUM AND SCULPTURE GARDEN

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTE**	Amount	FTE**	Amount
FY 1985 Actual	73	2,923	-	14	-	258	-	219	-	-
FY 1986 -Base	77	3,112	-	13	-	62	-	423	-	-
-PL 99-177***		2,985								
FY 1987 Estimate	77	3,233	-	13	-	66	-	197	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	77	-	77
11 Personnel Compensation.....	1,954	36	1,990
12 Personnel Benefits.....	199	5	204
21 Travel.....	32	11	43
22 Transportation of Things.....	206	9	215
23 Rent, Communications & Utilities....	7	-	7
24 Printing & Reproduction.....	96	4	100
25 Other Services.....	200	40	240
26 Supplies & Materials.....	180	13	193
31 Equipment.....	82	3	85
Collections Acquisition.....	150	-	150
41 Grants.....	6	-	6
Total	3,112	121	3,233

Analysis of Increase

Necessary Pay.....	41
Inflation.....	40
Program Funds.....	40

ABSTRACT - The Hirshhorn Museum and Sculpture Garden (HMSG) was established by an Act of Congress (P.L. 89-788, November 7, 1966) and opened to the public on October 4, 1974. Its collection of art, soon to number more than 13,500 works, forms the basis of an active program of public exhibitions, catalogues relating to its collection and exhibitions, extensive research and a wide range of educational activities including film programs, lectures, concerts, publications and tours. For FY 1987, an increase of \$40,000 is requested to enable the Museum to conduct research and to catalogue approximately 6,000 works of art added to the permanent collection in FY 1986. Necessary pay of

\$41,000 is required for existing staff and an amount of \$40,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The active programs of the Hirshhorn Museum and Sculpture Garden over the last 11 years have resulted in the Museum attracting the highest visitation of any contemporary art museum in the United States. This information is based on a survey conducted by the American Association of Art Museums. As one of the major museums of modern and contemporary art in the United States, the Hirshhorn Museum operates active programs of research, exhibitions, acquisitions, collections management, and activities involving audiences of all ages.

Research - The Museum's resources include works of art, a curatorial file providing information on artists and works in the collection, and a library with 6,000 volumes. Works of art not on display are available to scholars and students for study by appointment. With the addition of the 6,000 works of art from the estate of the late Joseph H. Hirshhorn, the staff of the museum will be involved in researching the provenance of each work of art which will be added to the existing curatorial files. In coordination with the Office of Information Resource Management's Institution-wide automation plans, the Hirshhorn Museum's data base will be placed on a new system that ultimately will allow researchers and the public to retrieve information on-line from computer terminals.

Exhibitions - The Museum conducts an active exhibition program that draws upon works in its collection, as well as other collections. Approximately 700 works from the permanent collection are on display at any time. In FY 1985, the Museum organized two major exhibitions: "Content: A Contemporary Focus, 1974-1984" and "Representation Abroad: Diversity." The exhibition "Content: A Contemporary Focus, 1974-1984," was the second part of the tenth anniversary celebration of the Hirshhorn Museum. Nearly two hundred American and European works were shown in the exhibition which was organized as a unified overview of art of this decade. "Representation Abroad," a loan exhibition of 147 paintings, drawings, and sculpture, opened at the Hirshhorn Museum and Sculpture Garden on June 5, 1985. The 16 artists represented reflect the strengths and diversity of representational art being created in Australia, Colombia, France, Great Britain, Italy, Spain and West Germany. "Jim Dine: Five Themes," organized by the Walker Art Center, was also exhibited at HMSG during FY 1985.

A small exhibition, with an accompanying slide presentation, "Conservation of Modern Art," was financed by the Women's Committee of the National Associates. In addition, the Museum mounted several small exhibitions based on its holdings of works on paper. The Museum, in conjunction with the Smithsonian Institution Traveling Exhibition Service (SITES), circulated two exhibitions, "Artists and Models: Portraits from the Hirshhorn Museum and Sculpture Garden" and "Genre Scenes: Works on Paper from the Hirshhorn Museum and Sculpture Garden" to a total of 25 locations across the United States.

In FY 1986, the following are among the major exhibitions planned by the Hirshhorn Museum: "A New Romanticism: Sixteen Artists from Italy"; "Selections from the Collection of Gustave and Marion Ring"; "Directions 1986"; and "Selections from the Bequest of Joseph H. Hirshhorn." "Robert Arneson," organized by the Des Moines Art Center, will be shown at the Museum in FY 1986. Exhibitions based on the permanent collection will include "Relief Sculpture" and several exhibitions of works on paper. Exhibitions organized by the Museum that will travel in FY 1986 are "A New Romanticism: Sixteen Artists" to the Akron Art Museum, and "Surrealist Art: Selections from the Hirshhorn Museum and Sculpture Garden" which, through SITES, will go to seven locations.

In FY 1987, the following are among the major exhibitions scheduled: "Nancy Graves Retrospective," organized by the Fort Worth Art Museum; "Roger Brown," which will travel to several other museums; and "Morris Louis," organized by the Museum of Modern Art in New York.

Collections Management - The Museum inventories its entire collection on a three-year cycle with spot checks made at least annually. In FY 1985, conservation on the outdoor sculpture involved treating every piece of sculpture that was in the garden and on the plaza. In early FY 1986, objects bequeathed to the Museum by Joseph H. Hirshhorn were moved into the building. The Hirshhorn Museum and Sculpture Garden transferred its African, Pre-Columbian, Eskimo, South Arabian and other "Special Collections" objects to the Freer Gallery of Art, the National Museum of African Art and the National Museum of Natural History. Similar works in the Hirshhorn bequest will also be offered to the Hirshhorn's sister museums at the Smithsonian.

Education and Public Orientation - To increase visitor appreciation and understanding of specific exhibitions and of modern art in general, the Museum provides visitors with a variety of educational materials, including explanatory wall labels and brochures. The latter range from a single page to illustrated minicatalogues and are distributed free of charge to the public.

The Hirshhorn Museum encourages visitation through its outreach program. Several film series are offered including a lunchtime series about artists and their work, an evening series of films by artist filmmakers, and a Saturday film series for young people. Events held in the auditorium include concerts by the 20th Century Consort and lectures by artists, critics and art historians. Occasionally, symposia are organized in connection with exhibitions.

"Currents," a free seminar for high school juniors, was developed by the Museum as a biannual program to familiarize students with trends and ideas represented in new works of art. Exploring the interrelationship of current history and art, the two and one-half hour program includes intensive gallery study, a slide overview and informal discussions. The comments and observations of the students will be published and made available to the public as a free, accessory exhibition handout.

Acquisitions - The legislation establishing the Hirshhorn Museum described its function as a "museum in Washington, D.C. where modern art could be exhibited and studied ... [to] ... enrich the culture of the Nation." In order to carry out this mandate, it is essential that the Museum's collection always include contemporary art and that the Museum keep abreast of current developments in the visual arts. To present an accurate account of esthetic developments on an international level, an active acquisitions program is essential. In FY 1986, the Museum was able to add one work of art purchased with appropriated funds, a painting by Frank Stella titled "Quaqua! Attaccat la!". Purchases using nonappropriated funds include Jean Dubuffet's painting "The Hunt of the Two-Horned Creatures"; Anselm Kiefer's painting, "The Book"; soft sculpture, "Soft Engine for Airflow, with Fan and Transmission," by Claes Oldenburg; Donald Sultan's painting, "The Plant"; and "Standing Deep's L.A.," a sculpture by Christopher Wilmarth.

EXPLANATION OF PROGRAM INCREASE - Research (\$40,000) - In FY 1987, an increase of \$40,000 is requested to enable the Museum to research and catalogue approximately 6,000 works of art added to the permanent collection.

In 1981, Joseph H. Hirshhorn bequeathed 6,000 works of art to the Hirshhorn Museum and Sculpture Garden. At that time the bequest was valued at \$12 million and is worth significantly more today. The addition of 6,000 works to the Museum's permanent collection requires that extensive research be undertaken to cull duplicate works, and to provide biographical information on the artists not already represented in the Museum's collections. To initiate the incorporation of these works into the Museum's collections, a bibliographical and archival record will be prepared for each of the 6,000 new works, along with a comparative analysis of the relationship between the new works and the Museum's existing collections.

The requested increase of \$40,000 will allow the Museum to begin researching, photographing and cataloguing the 6,000 new works and will provide support for curatorial travel to conduct the necessary research. After the initial work to incorporate the bequest into the collection is completed, this funding will be required to process loan requests to other museums and for collection management purposes.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided from several sources including the Museum's share of sales in the museum shop and plaza cafe and from other receipts such as fountain coins. A special purpose fund partially supported the exhibition, "Content: A Contemporary Focus, 1974-1984," for the tenth anniversary of the Museum (actual expenditures of \$190,000 in FY 1985) and an allotment provided for the travel expenses of the Museum's Board of Trustees (estimated expenditures of \$4,000 in FY 1986 and \$5,000 in FY 1987). Funds also were made available to support in part the 20th Century Consort which has been performing at the Hirshhorn Museum and Sculpture Garden for ten years (estimated expenditures of \$10,000 in FY 1986 and \$19,000 in FY 1987).

Restricted Funds - The Museum hopes the funds bequeathed to it by Joseph H. Hirshhorn will be received by FY 1987. This amount has not been finally determined. The Museum has raised outside support from various sources to help acquire costly and important major works for the permanent collection (estimated expenditures of \$400,000 in FY 1986 and \$197,000 in FY 1987). To restore to the Hirshhorn Museum and Sculpture Garden the art acquisitions funds which, with the approval of the donor, Mr. Hirshhorn, were used for construction costs in 1973 and 1974, the Smithsonian Institution has established a restricted endowment fund for the Museum in the amount of \$2,500,000, and a Special Purpose fund in the amount of \$700,000 to be used immediately for art purchases (estimated expenditures of \$400,000 in FY 1986 and \$300,000 in FY 1987). The Board of Regents approved the establishment of this Special Purpose fund late in FY 1985 and, therefore estimated expenditures for FY 1986 and FY 1987 are not reflected in the "Application of Funds" Table.

CENTER FOR ASIAN ART

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTE**	Amount	FTE**	Amount
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	33	1,549	1	57	-	59	22	2,133	-	-
FY 1986 -Base	46	3,074	1	2,081	-	3	22	1,657	-	-
-PL 99-177***		2,946								
FY 1987 Estimate	68	4,106	1	1,567	-	3	22	1,582	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	46	22	68
11 Personnel Compensation.....	1,117	470	1,587
12 Personnel Benefits.....	139	60	199
21 Travel.....	17	10	27
23 Rent, Communications & Utilities....	65	3	68
24 Printing & Reproduction.....	149	106	255
25 Other Services.....	616	26	642
26 Supplies & Materials.....	632	336	968
31 Equipment.....	239	17	256
Collections Acquisition.....	100	4	104
Total	<u>3,074</u>	<u>1,032</u>	<u>4,106</u>

Analysis of Increase

Necessary Pay.....	22
Inflation.....	76
Program Funds.....	934

ABSTRACT - The Center for Asian Art is comprised of the Freer Gallery of Art, established May 5, 1906, and the Arthur M. Sackler Gallery, established July 28, 1982. Both galleries are devoted to the acquisition, study, conservation, interpretation and exhibition of Asian art. The Sackler Gallery, scheduled to open to the public in mid-1987, will have an exhibition program that includes temporary loan exhibitions to and from other organizations which is not possible at the Freer because of the terms of the founder's will. The Freer Gallery of Art has a continuing program to display its collections as keys to understanding the civilizations that produced them. For FY 1987, an increase of 12 workyears and \$662,000 is requested for the Sackler Gallery for

activities to be held in the Quadrangle, including a major inaugural exhibition that will display the initial gift from Dr. Sackler of approximately 1,000 objects. A further amount of 10 workyears and \$272,000 is required to annualize the partial-year funding for 17 positions approved in the FY 1986 budget for Quadrangle-related support. Necessary pay of \$22,000 is required for existing staff and an amount of \$76,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

FREER GALLERY OF ART

PROGRAM - The Freer Gallery of Art houses one of the most distinguished collections of Oriental art in the world, consisting of over 26,800 works of art from China, Japan, Korea, India and the Near East and spanning 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 is a highlight of an outstanding collection of American art that Charles Lang Freer, the Gallery's founder, considered a bridge between the arts of the East and West. The unique Oriental collections in 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, lengthy periods of advance bookings for authentication appointments, and the number of visiting scholars and dignitaries. Items not currently on exhibition are available to students and scholars for study. In addition to the collections, the Gallery houses a public library of approximately 30,000 volumes relating to the objects in the collections.

Research - Freer Gallery research facilities, the collections, curatorial staff, library and technical conservation laboratories, form the nucleus of its specialized public service. Research findings are made available to the public through exhibitions, catalogues of exhibitions, articles, free gallery leaflets and public lectures at the Freer as well as at other similar institutions. Updating the research files on individual pieces in the collection continues. These files are made available to visiting scholars and students as well as the general public.

The results of curatorial research are most visible in the Gallery's exhibitions. However, additional research results made available to the public can be found in collection research records, in lectures, and in published papers and books. Specific areas of research in Japanese art included an ongoing study of porcelains, the study of Mino and Seto wares, clan patronage of Japanese ceramics during the Edo period, calligraphy and theatre in the Edo period.

In the field of Chinese art, research continued on Chinese calligraphy and paintings of the Sung, Yuan, Ming and Ch'ing dynasties. Topics included K'un-ts'an (ca. 1612-1680) Mt. Huang and Chang Ta-ch'ien (1899-1983); the periodization of Yen Chen-ch'ing's (708-784) calligraphic influence; and Huang T'ing-chien's (1045-1105) cursive script and his influence.

The investigation of the development of Western connoisseurship of Chinese art continues. Of particular interest are the changes in the dating and qualitative assessment of Chinese artifacts in Western collections on the basis of information provided by recent archaeological finds in the People's Republic of China. While the initial focus was Charles Lang Freer and his collection, research expanded to include English and European collectors of the late 19th and early 20th centuries. A major presentation of the present status of this investigative research of Western connoisseurs was a lecture given at the National Palace Museum in Taiwan in October 1985, as part of that museum's 60th-anniversary celebration.

A comprehensive review of all literature on Chinese figure painting during the past 12 years has been conducted as part of the revision of the Freer catalogue, China Figure

Painting. Originally published in 1973, this catalogue is the only study in this field and has been out of print for seven years.

In the field of Indian art, research during the last year focused on the art and architecture of 16th-century Mughal India. A primary interest has been the development and formation of a Mughal esthetic and the formulation of a methodology for approaching the works of art made for the Emperor Akbar during his years at Fatehpur-Sikri. Several publications resulted from this research as well as an international symposium on the art, architecture and culture of Fatehpur-Sikri that was part of the Festival of India. Research in the area of the Near East involved the exploration of the mechanisms by which Timurid art became codified and standardized and the impact on this process of Timur (Tamerlane), the founder of the Timurid dynasty.

The Technical Laboratory of the Freer Gallery is renowned for its research activities, in addition to the ongoing conservation and restoration of objects in the collection. Research included casting methods, corrosion, and lead-isotope ratios in Chinese bronzes; colors of the copper-tin-lead alloy system; Oriental painting materials, including pigments and inks; and technical examination of Islamic metalwork for the exhibition and catalogue mentioned below. Continuing research includes lead-isotope ratios in pigments and bronzes from Asia; studies on Chinese ink samples; identification of early Korean painting materials; deterioration mechanisms on East Asian paintings; corrosion on archeological metal objects; the dating of ancient silver from its microstructure; and improved methods for analysis of archeological metals. A survey of pigments on Japanese Ukiyo-e paintings in the Freer has been completed and is being reviewed for publication. In FY 1985, the Technical Laboratory also had two research fellows, one working for ten weeks primarily on materials and methods of fabrication of Indian bronze mirrors, and the other for a year to study the pottery of Kenzan (a 17th-18th-century Japanese potter) by both stylistic and technical means.

Conservation - In FY 1985, objects in various media (ceramics, wood, lacquer, metal, etc.) were treated, along with many Persian and Indian miniature paintings and also prints by the American artist James McNeill Whistler. Most of these treatments were done to put the objects in the best possible condition for exhibition. In addition, technical examination and treatment of objects intended for the Arthur M. Sackler Gallery began.

Exhibitions - Japanese exhibitions in the past year included "Japanese Calligraphy" which exhibited 14 hanging and hand scrolls and screens in an exhibition that featured traditional styles of Japanese writing and cursive styles developed during the 8th through the 12th centuries. Many objects were on public view at the Freer for the first time.

"Japanese Drawings" included the preliminary drawings that Katsushika Hokusai (1760-1849) made for a partially published series of woodblock prints. Some 35 brush and ink drawings by 19th-century artists were featured in this exhibition. The works by Hokusai illustrated the extraordinary care with which this master prepared his print designs. Also included were drawings by Gyosai (1831-1889) and others.

In the exhibition "The Glazed Ceramic Tradition of Seto and Mino" the evolution of glazed wares at Seto and Mino was illustrated by a number of rare early pieces, as well as by representative Momoyama period (1568-1615) wares. Centers for the development of glazed ceramics during Japan's medieval period (13th-16th centuries) were the neighboring pottery districts of Seto and Mino. In the 16th century, Chinese ceramic models were replaced by a colorful, eclectic, distinctively Japanese ceramic style for which Mino continued to be an important center. The "Kyoto Ceramics" exhibition presented the work of the major Kyoto ceramic artists as well as that of representative Kyoto pottery workshops of the Edo period (1615-1868). Witty design, refined workmanship, and colorful

enamel decoration characterize the ceramic wares from Kyoto, the former capital of Japan and a great commercial center for luxury goods. Another Japanese exhibition that opened during FY 1985 was "Japanese Theater in the Edo Period." "Garden Potteries and Official Kilns: Clan-sponsored Ceramics in the Edo Period" opened in January and will close in August, 1986. Both exhibitions dealt with topics not previously explored through exhibitions at the Freer Gallery.

Chinese exhibitions included "Masterpieces of Chinese Painting" which was presented in conjunction with the exhibition, "The Treasures from the Shanghai Museum," shown in the National Museum of Natural History. The "Masterpieces of Chinese Painting" included important paintings dating from the Sung through the Ch'ing dynasties. "Ming Dynasty Calligraphy and Painting" presented comparisons of calligraphy and painting by 40 different artists of the Ming dynasty (1368-1644) through a selection of 25 hanging and hand scrolls. "Painting and Calligraphy from the Ch'ing Dynasty" exhibits approximately 30 masterpieces of Ch'ing dynasty (1644-1911), plus new acquisitions from the same period. The calligraphy includes early scripts such as clerical and seal script. The paintings feature masters of the orthodox school as well as the individuals. This show provides a sequel to the exhibition of similar types of works from the Ming dynasty mentioned above.

Indian exhibitions included "The Arts of South Asia." As part of the Festival of India at the Smithsonian, the Freer presented paintings and sculpture representing a complete survey of its collection of art from the Indian subcontinent. Among the objects in the exhibition were a stone relief (ca. 200 A.D.) from the Gandharan region of Pakistan, depicting the Four Great Events in the life of Buddha (his Birth, Enlightenment, First Sermon and Death); a 10th-century bronze sculpture of the goddess Parvati, consort of the Hindu god Shiva and a symbol of earthly fertility and divine beauty; and an imperial portrait of the Mughal Emperor Jahangir (ca. 1615 A.D.). A recent acquisition, a Rajput painting from the Punjab Hills (ca. 1660 A.D.) showing the goddess Devi being worshipped by the three great Hindu gods (Brahma, Vishnu and Shiva), is an example of one of the earliest and most dramatic styles of Hindu painting from the region. To coincide with the nationwide celebration of Indian traditions and culture, the Freer also awarded the Freer Medal to Dr. Stella Kramrisch, an outstanding scholar in the field of Indian art.

Near Eastern exhibitions included "From the Hand of Mani: Iranian Paintings from the Freer," which included 32 pages representing the Freer's finest Iranian manuscripts. This exhibition showed the development of an Iranian idiom in manuscript painting between the 14th and the 16th centuries. Among the paintings on view are pages from the "Haft Awrang" of Jami (1556-1565), the "Khamseh" of Nizami (early 15th century), and the Demotte "Shahnama" (early 14th century). Artists who executed these works drew symbolic inspiration from Mani, a legendary painter who became the ideal of artistic creativity in Iran.

"The Riza-i Abbasi Album" includes 27 drawings, many of them signed and dated by or attributable to Riza-i Abbasi, acknowledged by art historians to have been among the greatest artists of Iran's Safavid empire (1502-1736). The drawings are part of an album obtained by the museum in 1953 from the collection of Friedrich Sarre, a German art historian who, working around the turn of this century, pioneered the study of Islamic art. Also included in the exhibition are six Persian ceramics and 11 other 16th- and 17th-century Persian album paintings.

The "Islamic Metalwork" exhibition, which opened last fall, is a detailed exploration from both the technical and esthetic points of view. This show features 37 intricately crafted examples of vessels, plates, ewers, weapons and other objects in brass, silver and gold, showing the development of metalwork in the Islamic world from the 7th-8th through the 17th centuries. An illustrated catalogue accompanied the exhibition.

A joint exhibition of Chinese, Japanese and Near Eastern calligraphy is planned for the summer of 1986 in conjunction with the International Congress for the History of Art to be held in Washington, D.C. in August. This Asian calligraphy exhibition will include approximately 55 objects (16 from Japan, 20 from the Muslim world and 19 from China). A catalogue will accompany the exhibition.

Collections Acquisition - In FY 1985, Federal funding was provided for the first time for collections acquisition for the Freer Gallery. These funds were used to purchase a pair of 17th-century Japanese screens and a 7th-century Sasanian metalwork dish. The Sasanian dish is an extremely important example of 7th-century Iranian metalwork. Its finely crafted silver body and gilt decoration reflect imperial workmanship. The dish's significance, however, is not confined to its beauty. Its symmetrically arranged decorative program shows the impact of Islamic taste and indicates the dish's transitional position between the old ideals of the Sasanians and the new interests of the Muslim conquerors of Iran. Only a few other objects of this nature exist and none of them are of the quality of the Freer dish.

The pair of six-panel Japanese screens depicts a stylized bridge in silver-leaf, spanning the width of both screens. Budding willows and weeping cherries in bloom hang gracefully over the bridge, set off against the gold-leafed background. From the branches of the trees hang poem-slips (tanzaku), decorated paper strips inscribed with poems in fine calligraphy and actually applied to the screen. The screens are datable to the early 17th century and are stylistically similar to works by painters of the Hasegawa scroll, who were known for their large-scale paintings on sliding doors and screens. These screens are an important addition to the collection because they are the only calligraphic screens of this type in the collection and they are rare.

Recent additions to the collection with Freer nonappropriated Trust funds include Japanese ceramics, a wooden sculpture, calligraphy, paintings and a bronze; Chinese calligraphy, painting and a set of cricket cages; Indian paintings; and a Korean ceramic. Donations to the collections included Japanese ceramics, paintings, lacquer; Chinese bronze, ceramics, jade, glass and painting; and Turkish calligraphy.

Education - The Freer Gallery carries out a wide range of research and scholarly activity which is made available to the public in a number of ways. As part of the Freer's education program during FY 1985, the Gallery offered six free public lectures on various subjects that related to the collections. This popular lecture program continued with two lectures given in the fall of 1984 and four more given in the spring of 1985. Other parts of the education program include a free introductory brochure given to the visiting public and mailed to individuals and groups who write for general information on the Freer; a free introductory brochure for the visually impaired; the continuation of the highly successful free exhibition leaflets introducing various aspects of the Gallery's collections; and tours given by docents. In FY 1985, over 19,000 visitors joined the weekday and weekend tours given four times daily.

A catalogue on "Islamic Metalwork in the Freer Collection" was published in September 1985 to accompany the exhibition entitled, "Islamic Metalwork in the Freer Gallery of Art." Educational outreach continues through a new education program currently being developed for the elderly and the young. Currently, slide sets are available for docents to show to community groups. Pre-visit education packets are sent to schools prior to their tours of the Freer Gallery. Tours covering specific areas of the collection are presented to school and community groups studying specific areas of Asian art.

ARTHUR M. SACKLER GALLERY

PROGRAM - The primary goal of the Sackler Gallery is the advancement of the scholarly appreciation and public knowledge of Asian art. Toward this end, Dr. Arthur M. Sackler agreed to donate a collection of nearly 1,000 objects in the fields of Chinese, Indian, Southeast Asian, Near Eastern and Japanese art to the Smithsonian. This collection includes Chinese jades spanning a period from Neolithic times (5000 B.C.-1500 B.C.) to the 19th century; Chinese bronzes from the Shang (ca. 1523 B.C.- ca. 1028 B.C.) through the Han (206 B.C.- 220 A.D.) dynasties; and Chinese painting, Chinese lacquer, Near Eastern ceramics and metalwork, and sculpture from Cambodia, India and Thailand. During FY 1986, these objects will be moved from temporary storage space at the Smithsonian's Museum Support Center in Suitland, Maryland to the new facilities of the Sackler Gallery, after the Smithsonian has received beneficial occupancy of the Quadrangle. The public opening of the Sackler Gallery is scheduled for mid-1987.

Research - Research is the fundamental focus of the Sackler Gallery, providing the basis for exhibitions, publications and collections acquisitions. The research program involves both visiting scholars as well as the curatorial staff. Additionally, it is anticipated that the Asian art history journal Artibus Asiae, now totally funded by the Sackler Foundation, will be produced by the Gallery (although its contents will be independent of the Sackler Gallery programs and collections.) It is also planned, however, to publish a journal of scholarly research devoted to Sackler Gallery exhibitions and collections. These two journals would make the Gallery a major center for research publications on Asian art history. Exhibitions, exhibition catalogues and lectures at the Gallery will be generated from specific research projects. The Gallery's publications program will also include a quarterly bulletin intended for the general public. The bulletin will have color plates and informative text relating to the permanent collection, recent acquisitions and special exhibitions. Free leaflets will be provided in the exhibition galleries.

Conservation - The Sackler Gallery has a responsibility to protect and conserve the art objects under its purview. This includes the objects in the permanent collections, in loan exhibitions held in the Gallery, in Sackler-organized traveling exhibitions, and in Asian objects from other Smithsonian museums. Following the long practice of the Freer Gallery, the Sackler conservation efforts include object research to understand the origin of objects and therefore better develop the proper treatment of them. Expansion of the conservation facilities in a renovated Freer building will accommodate the requirements of the Sackler programs.

An expanded Oriental painting conservation program also is being planned. The Oriental art restoration studio takes a more traditional approach toward the conservation of East Asian paintings and screens than do Western conservation laboratories. Besides the work related to the Sackler collections and exhibitions, the studio also looks forward to a future program to train Americans in order to alleviate the critical shortage in this country of persons skilled in this specialized field. There are only three facilities in the United States capable of restoring and mounting rare East Asian paintings and screens, and they are occupied fully with the works in their respective museums.

Exhibitions - An extensive exhibition program is envisioned. The inaugural exhibition in the new building will display the initial Sackler gift together with other major objects on loan from the private collection of Dr. Sackler. The program will include exhibitions originated by the Gallery as well as traveling exhibitions organized elsewhere. Exhibitions will be drawn from international public and private collections as well as from the Sackler collection. It is expected that many Gallery-organized exhibitions will travel to other museums and institutions. Possible international traveling

exhibitions include "Indus Valley Civilizations," "Buddhist Art of Pakistan," "Timurid Art of Iran," "Chinese Painting of the Che School," "Mughal Gardens," and "Photographs by Raghubir Singh." Other considerations for future exhibitions are Chinese mirrors, Ordos bronzes, Chinese lacquer, Indian and Southeast Asian sculpture, Chinese garment hooks, Sasanian metalwork, Chinese furniture, Near Eastern ceramics, Far Eastern ceramics, and Chinese sculpture. Research catalogues will accompany these exhibitions.

Education - In addition to the publication programs, the Sackler Gallery will attract a large number of research scholars and will have an active program for awarding research fellowships. Fellowship recipients would work closely with curators on topics related to the collections. Such a program has already begun. A grant from the Rockefeller Foundation has made it possible to establish a Rockefeller Foundation Residency Program in the Humanities at the Smithsonian Institution. The grant, which supports residential fellowships in Asian and African art, will provide two to three postdoctoral appointments each year beginning in 1985 and continuing through 1988. The Rockefeller Residency Program differs from existing fellowship programs in that it allows the fellows direct involvement in the plans and programs of the museums, and participation in symposia, exhibitions and publications.

Other scholarly grant programs are being explored to further the research and education programs that will utilize the collections and exhibitions at the Sackler as well as enhance the scholarship of Asian art.

A classroom has been planned for the Center for Asian Art for use in conjunction with local schools, colleges and universities. Programs will be developed to allow students at secondary, undergraduate and graduate levels to participate in symposia and seminars and come into direct contact with major works of art and distinguished scholars and curators.

The development and growth of the many programs at the Sackler Gallery will mean greater demands on the existing staff of the Center. Additional support staff for appropriate existing departments continues to be necessary.

Collections Acquisition - The Sackler Gallery will continue to acquire art objects in those fields of central interest to the museum, e.g., the arts of Asia in its broadest terms from Japan to the Near East. Objects acquired for the collection in the future will continue to be of high quality with respect to esthetic standards, cultural history and physical condition. Objects may be acquired by gift, bequest or purchase, provided that they meet established acquisition criteria. Since Dr. Sackler's initial gift, several items have been added to the Sackler collection. These include a Japanese palanquin or carriage, one Chinese lacquer and one Chinese bronze, an Indian manuscript, a selection of Japanese ceramics and prints, a selection of Asian objects transferred from the Hirshhorn Museum and Sculpture Garden and the Vever collection of Islamic and Persian paintings.

Explanation of Program Increase - Quadrangle - related Programs (22 workyears and \$934,000) - For FY 1987, an increase of 12 workyears and \$662,000 is requested for the expanding programs of the Sackler Gallery, including the installation of the inaugural exhibition and preparation of subsequent exhibitions (4 workyears and \$389,000); automation (1 workyear and \$25,000); collections management (2 workyears and 42,000); research (3 workyears and \$70,000); and education and public orientation (2 workyears and \$136,000). A further amount of 10 workyears and \$272,000 is required to annualize the partial year funding for 17 position approved in the FY 1986 budget for Quadrangle-related support.

-- Exhibitions (4 workyears and \$389,000): For FY 1987, four additional positions (4 workyears and \$79,000) are requested for the exhibition program at the Sackler

Gallery. Two museum technicians are required to assist with the installation of the inaugural exhibition in FY 1987, as well as future exhibitions developed by the Sackler and traveling exhibitions mounted in the Gallery. (One position approved in FY 1986 for the Sackler has provided initial support for the preparation of objects for the inaugural exhibition and other exhibition work.) A graphics technician also is needed to assist the graphics designer (approved in FY 1986) in the production of graphic work for the Sackler Gallery's exhibition and publication programs. A woodcrafter assistant would be hired to supplement the current cabinet shop staff. These positions will enable the Sackler Gallery to undertake the full exhibition program anticipated at its opening and in the future.

With funding provided in FY 1986, an exhibition base of \$1.2 million has been established for the Sackler Gallery. In addition to this base for the ongoing exhibition program a one-time increase of \$310,000 is needed in FY 1987 to support the initial installation of the exhibition galleries and the inaugural exhibition. These one-time costs represent the extraordinary expense of developing exhibitions for all of the exhibition spaces in the new museum at the same time.

--Automation (1 workyear and \$25,000): A systems administrator (1 workyear and \$25,000) is requested to oversee and ensure the appropriate growth of the automation facilities of the Center for Asian Art. This position will provide the necessary guidance and comprehensive planning to develop and enhance automation applications for the research, collections management and office automation requirements of the Center. An important part of this effort will be the establishment of shared systems and of connections with the Smithsonian's new central computer through a joint effort of the Smithsonian's Office of Information Resource Management and the Center's systems administrator. Furthermore, the systems administrator will be responsible for the training of research fellows and guest curators to enable them to use the computer equipment and software and to assist researchers when problems develop. Moreover, the systems administrator will provide support for the implementation of the Research Library Information Network computer system (with the Chinese, Japanese, and Korean enhancement) for the Center for Asian Art library to give general visitors and scholars access to library card catalogues, research libraries information networks, and collections information in the Center's fields of interest.

In FY 1987, the base of \$67,000 will be used to purchase seven computers for the administrative offices, the registrarial office, the curatorial office and the library (\$29,000); to establish communications support between the 30 computers within the Center for Asian Art and with the central Smithsonian computer (\$36,000); and to upgrade existing software (\$2,000). In FY 1988 and following years, this level of funding will be used for maintenance of the equipment, and for the purchase of additional equipment, software, and related supplies.

-- Collections Management (2 workyears and \$42,000): For FY 1987, two additional positions are requested to support the collections management program at the Sackler Gallery (2 workyears and \$32,000). A new photographic technician will assist the two photographers currently on the Freer staff and the photographer provided in FY 1986 for the Sackler with the increased printing and paperwork associated with the Sackler Gallery's photographic work, especially in the areas of collections management and publications. A second position is requested for a museum technician to assist with the registrarial care and management of the objects in the Sackler collections. A sum of \$10,000 also is requested to support the operations of the restoration studio, including supplies and materials used in the conservation of art objects such as silks, papers, pastes, scroll tips and miscellaneous fittings (\$5,000); travel costs of visiting specialists from East Asia and for sending apprentice or junior specialists for advanced training in East Asia (\$3,000); and language training for East Asian specialists visiting the Center for Asian Art and for apprentices in the studio (\$2,000).

-- Research (3 workyears and \$70,000): The growth of the Sackler collection will vastly increase the responsibilities of the present Center for Asian Art staff, especially in the areas of Chinese and Near Eastern art, where the collection holdings are particularly large and important. To maintain the level of scholarly research established by the Freer and to provide a comparable level of support for the Sackler Gallery, an additional curatorial position and a secretary (originally requested in FY 1986) are needed (2 workyears and \$48,000). A sum of \$6,000 also is requested for curatorial and research travel costs.

The assistant curator is expected to have particular expertise in ancient Near Eastern art history and to engage in research projects related to the ancient Near Eastern objects in the Sackler collection. This specialist, who would complement the expertise of the Freer curator specializing in Islamic art, would also provide invaluable support in research documentation required for the inaugural exhibition catalogue.

The addition of a slide and photograph librarian (1 workyear and \$16,000) also is requested to maintain the day-to-day processing activities of the slide and photographic archives. This position would assist the visual resources librarian, who is responsible for developing and augmenting various visual research collections such as the Ernst Herzfeld and Myron Bement Smith Archives, the photographic archives and the slide collections. The slide and photograph librarian will care and maintain these collections and will manage the loan program of these visual resources to the public and to scholars, including the increased number of research fellows to be sponsored in the Center for Asian Art.

-- Education and Public Orientation (2 workyears and \$136,000): To strengthen the education and public service capabilities of the Sackler Gallery, two positions (2 workyears and \$36,000) are requested. During FY 1987, as the opening of the Sackler Gallery approaches, public interest in this new Smithsonian museum will intensify. The Public Affairs Office will be responsible for all press material and events; handling public inquiries; writing articles, general brochures and gallery guides; maintaining a public information calendar; and providing information and biographies of staff as appropriate. An assistant to the public affairs specialist (provided in FY 1986) is requested to handle the expanded workload of the Office in FY 1987 and following years.

The Sackler Gallery plans to publish four to six exhibition research catalogues each year as well as about a dozen brochures or gallery guides relating to specific exhibitions. An editorial secretary is needed to provide necessary clerical and publication support for the editor (provided in FY 1986). In addition, a sum of \$100,000 is requested to establish base funding for the preparation and publication of catalogues, exhibition and gallery guides, leaflets and introductory brochures. Additional outside funding will be sought to supplement this base.

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 exhibitions and to cover the travel costs of members who attend the Center's Visiting Committee meetings. These funds also support the position of coordinator for special programs in the Center.

In FY 1986, the Sackler Gallery was very fortunate to acquire the Vever Collection, one of the finest collections of Persian art ever assembled; consisting of 39 volumes, 291 miniatures, 98 calligraphies and illuminations, 29 bookbindings, 4 textiles and examples of almost all of the classical Persian texts known. Funds allotted for the

purchase of this collection include \$3,500,000 in FY 1986 and \$1,500,000 in FY 1987 with the balance of \$2,000,000 to be funded through Smithsonian's Institution Trust funds and private contributions. Additionally, during FY 1985, funds from the Collections Acquisition, Scholarly Studies and Educational Outreach Program were used to purchase art objects for the Freer Gallery collection.

Restricted Funds - The major portion of the nonappropriated Trust funds used by the Center stems from the Charles Lang Freer bequest and is restricted by the conditions stipulated in that document. The funds are used to help finance the Freer's professional curatorial staff, administrative staff, acquisitions for the collection and library, the maintenance of the Freer's courtyard and the operation of the Freer museum shop (estimated expenditures of \$1,519,000 in FY 1986 and \$1,567,000 in FY 1987). Funds from the Harold Stern Memorial Endowment support scholarly research in the field of Japanese art (estimated expenditures of \$62,000 in FY 1986 and \$12,000 in FY 1987).

ARCHIVES OF AMERICAN ART

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	17	732	-	2	-	-	17	994	-	-
FY 1986 -Base	18	894	-	4	-	-	16	1,201	-	-
-PL 99-177***		858								
FY 1987 Estimate	18	931	-	4	-	-	16	1,107	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	18	-	18
11 Personnel Compensation.....	644	4	648
12 Personnel Benefits.....	80	1	81
21 Travel.....	21	1	22
23 Rent, Communications & Utilities....	15	-	15
24 Printing & Reproduction.....	21	1	22
25 Other Services.....	64	28	92
26 Supplies & Materials.....	27	1	28
31 Equipment.....	22	1	23
Total	894	37	931

Analysis of Increase

Necessary Pay.....	5
Inflation.....	7
Program Funds.....	25

ABSTRACT - The Archives of American Art is a national research bureau with a network of regional centers across the country. It is the Nation's largest repository of documentary and source materials relating to the history of the visual arts in the United States. The Archives' collections contain more than eight million documents; 400,000 photographs; 75,000 works on paper; and approximately 3,000 tape recorded oral history interviews. The original material in these collections is housed in Washington, D. C., while microfilm copies of the collections are held in regional centers in Boston, New York, Detroit, San Francisco and Los Angeles. Special collecting projects are active in Philadelphia and Chicago, and in Rhode Island and throughout the South. For FY 1987, an increase of \$25,000 is requested to conduct research for a series of

interpretive publications based on the collections of the Archives of American Art. Necessary pay of \$5,000 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 Archives of American Art promotes the study of American art and cultural history by providing fundamental documentation for research and publication. The Archives' continuous accumulation of letters, diaries, sketchbooks, business papers, photographs, oral history interviews, and prints, and the ready availability of these resources and other forms of primary records to researchers and the lay public advances the scholarly analysis and interpretation of the arts in America. This is reflected in the numerous books, articles, dissertations, graduate papers, and exhibition catalogues which have drawn upon the resources of the Archives.

Founded in 1954 as a private institution in Detroit, the Archives became a bureau of the Smithsonian in 1970 following a resolution by the Board of Regents of the Smithsonian and the drafting of an agreement between the Archives' Board of Trustees and the Institution. The Archives' Board of Trustees provides advice and assistance to the Board of Regents and to the Secretary on all matters relating to the Archives.

Research - The effectiveness of the Archives is measured by the extent to which its collections are used. During FY 1985, 3,200 research visits were made to the various centers and 1,700 rolls of microfilm were lent to researchers from the United States and abroad. Research conducted at the Archives has resulted in more than 200 books, articles, exhibition catalogues, dissertations, and formal papers published or delivered this year. Information on the Archives' holdings is obtained from an ever-expanding catalogue (a published supplement was added this year to an earlier ten-volume set); various inventories and other finding aids; descriptions published in the Archives' quarterly Journal; and from talks and reports given by the staff to the scholarly community.

To reach an ever-widening audience, FY 1986 will witness an increased emphasis on staff research and publication. The Archives' Journal will continue to concentrate on editing and publishing significant materials from the collections, including letters, journals, photographs, and oral history interviews. In FY 1987, the Archives will prepare the first of a separate series of documentary volumes on the Federal art projects of the 1930s.

Development of Collections - During the past year, the Archives has received 226 collections of papers covering precisely two centuries--ranging from a 1783 letter to the uncle of Samuel F. B. Morse to the correspondence of Clement Greenberg, which extends into 1983. In addition, the new acquisitions include letters written by and to the 19th-century architect Robert Mills, who worked on three buildings which are now part of the Smithsonian; some Morse family letters; the records of the influential Chicago art critic Clarence Bulliet and of the New York critics Clement Greenberg and Thomas Hess; papers of the painter and theorist John Graham; the papers of Jackson Pollock and his wife, Lee Krasner, two of the best known figures in 20th-century American art; Stuart Davis material which gives insight into artists' organizations of the 1930s; the complete records of the Betty Parsons Gallery, which contain significant information on the American art market after World War II; a substantial collection of Marcel Breuer papers; and the voluminous files of the Institute of Contemporary Art in Washington, D. C., which record the history of a thriving 1950s organization whose aim was to bring contemporary culture to the Nation's Capital. In a particularly appropriate acquisition, the Archives received the personal and professional papers of its founder, the eminent art historian Edgar P. Richardson.

The Archives' Oral History Program continues. Thirty-five taped interviews were made this year with such artists as Aaron Bohrod of Chicago, Myron Stout of Provincetown, and Richard Diebenkorn of California. Among other influential art world figures interviewed were Nelson W. Aldrich, George C. Seybolt, and Robert Carlen. The Archives also conducted extensive videotaping sessions with David Hockney in Los Angeles and Marshall Fredericks in Detroit.

Surveys of art-related records in Philadelphia and Rhode Island will be completed in FY 1986. Examination of the holdings of New York institutions continues, as does a survey of documentary materials in the South. In FY 1985, the Archives began a two-year project in Chicago to microfilm art-related archival collections in institutional and private hands. Funding for these activities comes from foundation grants which were obtained by the Archives.

Exhibitions - Due to a lack of space, the Archives of American Art does not display its choicer holdings. The Archives, however, does lend selected items to museums to complement their art exhibitions. In FY 1985, these loans included several illustrated letters from American architects which were lent to the Massachusetts Institute of Technology; sketches by Harrison Cady which were lent to a Cady exhibition at the University of Tennessee; records of the American Abstract Artists group which were lent to the Museum of Fine Arts in Houston; letters and other documents related to J. A. M. Whistler which were lent to Knoedler and Company; and John Haberle sketches which were lent to the Museum of Fine Arts in Springfield, Massachusetts.

Public Education - The educational activities of the Archives include symposia, staff lectures, participation in conferences, art tours, and publication of the quarterly Archives of American Art Journal. During this past year, the Archives organized and cosponsored "Los Angeles in the 1940s," a symposium on Southern Californian culture during and after World War II. Planning is under way for a conference on New Deal art and a published guide to the available documentary material on that subject; both are scheduled for next year. In FY 1986, From Reliable Sources, an extensively illustrated catalogue of selections from the collections, will be republished. This volume will emphasize the use of documentary records in historical research.

Conservation and Care of Collections - The process of identifying, photographing, and describing the 75,000 drawings, sketches, prints, and others visual objects in the Archives' collection of works on paper continued in FY 1985. To date, some 12,000 items have been recorded, many of substantial esthetic and historical value. With funds appropriated in FY 1986, this important work will continue. The Archives will also begin an inventory of its collection of photographs to establish the size of the collection and to determine the conservation measures which are required. Automation of collection records is well under way, and the application of computer technology to the cataloguing of collections was begun and will receive dedicated effort in FY 1986.

A further description of the Archives' inventory plans is included in the Collection's Management/Inventory sections of this budget request.

EXPLANATION OF PROGRAM INCREASE - Research (\$25,000) - For FY 1987, an increase of \$25,000 is sought to establish a base to publish a series of interpretive works on the collections of the Archives of American Art.

In the past, publications by the staff of the Archives were limited by insufficient funds. Those funds which were available for publishing were secured from small general operating funds, or from foundations and private sources, and were devoted mostly to reference works--printed card catalogues and guides. Chief among the many possible publications being explored by the Archives is a descriptive guide to the collections pertaining to the history of the Federal art projects of the 1930s. The Archives of

American Art possesses the broadest documentation of the projects--artists' personal papers, oral history transcripts, and copies of the official records. A series of essays on the art of the period by leading scholars and Archives staff, coupled with a descriptive guide to the collections, would be a significant contribution to the 50th-anniversary decade of these Federal programs.

An increase of \$25,000 for FY 1987 would provide the funds necessary to engage a recognized scholar to write a description of the collections reflecting the history of the Federal art projects of the 1930s, establish a stable base for publications and allow the Archives to publish important scholarly works based on the collections and offer informative publications to the general public. In subsequent years, funding would be used to complete this endeavor, including the design, typesetting and printing of an estimated 350-page book. Once the project has been completed, the funding would be applied to other publications. Among the ensuing publications is a group of interpretive articles on the American Academy in Rome, whose records are held by the Archives. The effect of this classically oriented "graduate school" of fellows on the art, architecture, and urban design of the American city from 1895 until 1940 has yet to be assessed. In addition, a series on sources and documents in the history of American Art would be published, which would present important documents from the collections and interpretive essays. This work would be suitable for use in undergraduate and graduate programs as a supplement to textbook instruction.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided to defray costs associated with special events and to supplement travel expenses incurred by the Archives' Board of Trustees. With partial support from a Special Purpose fund, the Archives will publish its new edition of From Reliable Sources, a publication which is the chief means of informing the public of the important documents in the Archives collections, the use of documentary records in historical research, and the role of the Archives in preserving the records of American cultural history.

Restricted Funds - These funds are generated through fund-raising activities, the solicitation of gifts, as well as foundation and corporation grants, and a membership program. A substantial portion of this income is used to support the Archives' general operating expenses, including 16 full-time employees, its Oral History Program, and the publications program.

Foundation and corporation grants have provided the principal sources of support for special projects. Collecting projects funded by the Luce Foundation in the South, Philadelphia, and Rhode Island will be completed in FY 1986 (estimated expenditures of \$88,000 in FY 1986). Development of a film on the Archives' programs to reach a wider audience through television and other visual means will be completed in FY 1986 through a grant from the Robert Wood Johnson Charitable Trust (estimated expenditures of \$59,000 in FY 1987). In FY 1984, the Archives opened its Southern California Research Center, which is housed at the Huntington Library and Art Gallery and funded entirely by local contributions (estimated expenditures of \$98,000 in FY 1986 and \$104,000 in FY 1987). Support in FY 1986 and FY 1987 will be sought for a special Chicago collecting project (estimated expenditures of \$69,000 in FY 1986 and \$64,000 in FY 1987) and for contractual field collectors in the South, Minnesota, Missouri and other targeted areas (estimated expenditures of \$86,000 in FY 1986 and \$75,000 in FY 1987).

COOPER-HEWITT MUSEUM

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
FY 1985 Actual	26	880	20	720	5	944	1	422	-	69
FY 1986 -Base	26	942	20	733	5	1,141	1	880	-	50
-PL 99-177***		903								
FY 1987 Estimate	26	1,011	20	757	5	1,037	1	1,063	-	50

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	26	-	26
11 Personnel Compensation.....	728	11	739
12 Personnel Benefits.....	78	2	80
21 Travel.....	5	-	5
23 Rent, Communications & Utilities....	14	1	15
25 Other Services.....	53	52	105
26 Supplies & Materials.....	60	3	63
31 Equipment.....	4	-	4
Total	<u>942</u>	<u>69</u>	<u>1,011</u>

Analysis of Increase

Necessary Pay.....	13
Inflation.....	6
Program Funds.....	50

ABSTRACT - The Cooper-Hewitt Museum opened its doors to the public in October 1976 as the Smithsonian Institution's National Museum of Design. Housed in New York City's national landmark, the Andrew Carnegie Mansion, and in the adjacent Miller House, the Cooper-Hewitt has world-renowned collections that include drawings, prints, textiles, wallcoverings, furniture, jewelry, glass, ceramics, metalwork and other examples of decorative and applied arts representing three millenia and dozens of cultures. The Museum is a leading international center for the study and interpretive display of the arts of design. With over 167,000 items in its inventoried permanent collections, the Cooper-Hewitt is responsible for the third largest group of objects in any single Smithsonian museum and more than twice the number inventoried by the rest of the Smithsonian's art museums combined. For FY 1987, an increase of \$50,000 is requested to reinforce the Cooper-Hewitt's research capabilities in the Department of Drawings and

Prints and the Department of Decorative Arts. Necessary pay of \$13,000 is required for existing staff and an amount of \$6,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Cooper-Hewitt Museum is a center for collections, exhibitions and educational activities which explore the processes and products of historical and contemporary design. The Museum was established as the Cooper Union Museum for the Arts of Decoration in 1897, a hands-on working laboratory for the benefit of anyone interested in design. Through the generosity of several benefactors, extraordinary resources were assembled and made available for study. The Cooper-Hewitt has since been acknowledged as one of the most distinguished "working" collections of its kind in the world.

In 1967, the Museum collections and library were transferred by the Cooper Union to the Smithsonian Institution and renamed the Cooper-Hewitt Museum, the Smithsonian Institution's National Museum of Design. Today, the Museum is housed in a national and city landmark, a 1902 mansion built as the residence of philanthropist Andrew Carnegie, and in an adjacent townhouse. These properties were given to the Institution in 1972 by the Carnegie Corporation as a permanent home for the Museum. The Cooper-Hewitt is one of the principal attractions of New York City's famous "Museum Mile" on Fifth Avenue.

The Cooper-Hewitt would not exist in its present form without substantial private funding. It is only through extensive fundraising and careful management that the Museum is able to offer its ambitious exhibition schedule year after year. The following review of the Museum's major accomplishments in FY 1985, and its plans for FY 1986 and beyond, therefore reflect predominantly Trust-funded activities.

Exhibitions - The Museum presents between 12 and 16 exhibitions each year, both to generate revenues from admissions and to attract a broader audience. In FY 1985, the exhibitions presented European, Asian and American materials, while a special group of projects addressed lesser-known paper-related arts, as well as books and libraries as design sources and products. "Objects of Adornment: Five Thousand Years of Jewelry from the Walters Art Gallery, Baltimore" was a wide-ranging survey of great beauty from a collection of major importance. "European Illustration: 1974-1984," organized specifically for the Cooper-Hewitt, looked at modern trends in professional illustration work of several kinds. The figural representation of Europe, together with those of Asia, Africa and North America, formed the theme of an unusual survey of a major iconographic tradition in the decorative arts in "The Four Continents," an exhibition organized by a student in the Museum's Master's Degree Program. The exhibition, "Celebration and Ceremony: Design in the Service of Wine," a panoramic look at objects--both ordinary and extraordinary, secular and sacred--was made possible by a grant from Moet and Chandon Champagne and Hennessy Cognac.

Asian arts were featured in two specialized exhibitions during the year: "Fabled Cloth: Batik from Java's North Coast" and "Chinese Gold and Silver from the Tang Dynasty in American Collections." The cost of the batik project was underwritten with a grant from the Mobil Oil Corporation. American crafts and design traditions were the subjects of "Chicago Furniture: Art Craft and Industry, 1883-1983" and "New Vistas: American Art Pottery, 1880-1920."

During FY 1985, the Museum's own holdings furnished rich materials for a temporary exhibition entitled "Timeless Sources: Rare Books in the Cooper-Hewitt Collection," and "Cut Paper" which presented over 150 examples of this traditional art form from several centuries and cultures.

An impressively international spectrum of design-related exhibitions is scheduled for FY 1986 with "Golden Eye: An International Tribute to the Artisans of India," a festival of India exhibition featuring the effect of traditional Indian crafts upon the

imagination of several of the world's leading designers. Other important exhibitions for FY 1986 include contemporary Finnish glass, antique toys from the Nuremburg Spielzeug Museum in Germany, Renaissance Hungarian gold and silver, and the iconoclastic 1980s furniture, textiles, and related designs of the international consortium known as "Memphis/Milano." "La Nijnska: A Dancer's Legacy," organized by the Fine Arts Museums of San Francisco as a tribute to the international career of a major creative force in modern dance, will be premiered at the Cooper-Hewitt.

Major private support has been developed by the Museum in the form of a grant from Louis Vuitton, Inc., for the FY 1986 exhibition "Bon Voyage: Design for Travel." Also in FY 1986, the Cooper-Hewitt plans to present the Smithsonian Institution Traveling Exhibition Service show "Hollywood: Legend and Reality." Other shows to be presented in FY 1986 include a survey of "Newcomb Pottery," 19th-century needlework portraits of tall ships, the historical evolution of playing cards, and milestones from the last 50 years of industrial design. The latter project is being funded by a grant from the Consumers Union Foundation.

Two major architectural exhibitions are being developed by the Museum for FY 1987: "Berlin 1900-1933: Architecture and Design," and "Gaudi in Context Building in Barcelona, 1870-1936." In FY 1987, the Museum also anticipates a major exhibition on Louis H. Sullivan, one of America's own titans of modern architecture, as well as subsequent projects on the subjects of printed fabrics from the Museum's collections, the arts and crafts movement in America, and the art nouveau style in Japan.

Collections Management - The size of the collection of the Cooper-Hewitt dictates that collections management be a continuous activity. Cataloguing of the collections is an ongoing process and inventory records are being constantly upgraded and reconciled with preinventory records. In addition, each year a portion of the collection is re-inventoried.

In FY 1985, a grant from the New York State Council on the Arts permitted the Museum to contract an archival consultant who prepared a plan to manage the important papers given to the Cooper-Hewitt by the preeminent Czechoslovakian graphic designer, Lladislav Sutnar. The Museum hopes to be able to arrange similar services in future years for several other archival collections which it has acquired over the years, but for which there has not been permanent staff available to act as managers.

The Registrar's Office is a major center of collections management activity. In the first half of FY 1985, the five full-time staff members of the Registrar's Office recorded 673 accessions, oversaw all aspects of formal loan arrangements for 752 items borrowed from 53 separate lenders for nine different exhibitions, and managed the loan of 385 Cooper-Hewitt items to 22 different borrowers in connection with 19 separate projects.

Collections Acquisition - Traditionally, acquisitions have been made by gift or bequest more frequently than by purchase. In FY 1985, some of the most important purchases included a group of nine early 20th-century linen damask napkins made in the Netherlands; a very rare seven-meter length of hand-printed wallpaper made by the Reveillon firm of Paris in about 1800; two elevations for a house for P. J. Hertzfel by the French architect Eugene Viollet-le-Duc, dated 1874; an unusual group of seven graphics documenting design for a printed silk by the renowned artist Raoul Dufy, who was employed by the French manufacturer Bianchini-Ferrier between 1912 and 1928; and a spectacular 1907 English silver sideboard plate designed by L. Movio and made by Holland, Aldwinkle and Slater. During FY 1985, a group of 19th-century prints (portraying race horses) which had been left to the Museum by Erskine Hewitt, without restriction upon their use or disposal, was sold at public auction.

Publications - The Cooper-Hewitt's publications program, which operates strictly with nonappropriated funds, has been active. A thorough catalogue of the American art pottery collection will be completed and published in FY 1986, after more than a year's work. A portion of the sponsor's grant made possible a very handsome book entitled, "Celebration and Ceremony: Designs for Wine," to accompany the exhibition. The publications office also assists in the production of four illustrated newsletters which are sent to the Museum's members each year, as well as four brochures describing the changing subscription programs offered by the Museum.

A collection handbook describing the range of the Museum's rare book holdings was produced with the aid of a generous grant from Mr. Arthur Ross to accompany the "Timeless Sources" exhibition. Work also progressed throughout FY 1985 on two additional handbooks devoted to theater designs and landscape architecture materials.

Other planned publications for FY 1986 and beyond include an innovative document to accompany "The Golden Eye," and a book on designs for travel, both of which will be funded by sponsors' grants. Commercial publishers in Europe are being approached about scholarly studies for the Berlin and Gaudi exhibitions. The Museum is forming plans for the continuation of its copublishing arrangement with the Book-of-the-Month Club, and hopes to be able to produce another volume in its continuing "Immovable Objects" series of special design studies. Substantial encouragement for the Cooper-Hewitt publishing program was received in FY 1985 from the J. M. Kaplan Fund, which funded the establishment of a revolving fund to produce catalogues for major exhibitions when such books would otherwise be beyond the Museum's means; and from the National Endowment for the Arts which accorded the First Annual Presidential Design Award to two Cooper-Hewitt publications: Cities: The Forces That Shaped Them, and American Enterprise: Nineteenth-Century Patent Models. In addition, both publications won several other professional awards.

Education - The Master's Degree Program in the history of the decorative arts is operated, in collaboration with Parsons School of Design/New School for Social Research, entirely with private funds. Graduates from the first class have taken positions with the Philadelphia Museum of Art, the J. Paul Getty Museum, the Baltimore Museum of Art, the London Museum (England), and the St. Louis Museum of Art, among others. The Helena Rubinstein Foundation and the Ford Foundation have provided scholarship funds, and the Museum hopes to see the availability of such support expanded in FY 1986 and FY 1987.

Capital Campaign - To raise a proposed \$11.5 million for the design and construction costs for a new wing which will link the Mansion with the adjacent Miller House, a Capital Campaign is being prepared by the professional fundraising firm of Brakeley, John Price Jones. Important progress was made in FY 1985 with the visits of several members of the Smithsonian Board of Regents to New York to study current conditions and the limitations of the physical plant. Subsequently, a unanimous decision was reached by the Board of Regents to seek authorization for a Federal appropriation of \$11.5 million as one-half of the total necessary to renovate and construct an adequate museum facility which will incorporate the most important elements of the existing structures. Over \$3 million has been raised thus far, and a national committee comprised of friends of the Smithsonian was established to identify potential major donors. Additional committees of professional interest groups and others who support the Museum's activities also are envisioned.

EXPLANATION OF PROGRAM INCREASE - Research (\$50,000) - In FY 1987, an increase of \$50,000 is requested to reinforce the Cooper-Hewitt's research capabilities. The Cooper-Hewitt Museum represents an important scholarly resource in interdisciplinary research in the field of design, with a research library of more than 35,000 books on decorative arts, architecture, design and related fields as well as extensive graphic and

archival collections related to interior and industrial design, textiles, color, pattern, and symbols. The Cooper-Hewitt's collections are its principal assets and the primary documents with which it informs and serves the public. The size and great diversity of the Museum's collections create a formidable challenge in providing adequate support to those researchers who use the collections for study. For instance, the collections of the Department of Drawings and Prints and the Department of Decorative Arts (which contain objects ranging from ancient materials to contemporary art and from oriental to American to European origin) are each more numerous than the complete holdings of many museums. The pressures of an active exhibition program, combined with the scope and range of the collections, leave little or no time for ongoing research projects, and maintaining the collections. To assist the two curators of these departments in researching these collections, a sum of \$50,000 is requested to secure the contractual services of scholars to develop finding aids and other research documentation for the collections.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from a variety of sources including museum shop sales, product development, membership and admission fees, donations, fund-raising events, and allotments. The allotments support salaries of the director, administrative office and various other staff members and help defray expenses associated with special events such as exhibition openings. Specific funds are used to support educational programs, museum shop expenses, exhibitions and publications for the Museum. Funds from the Institution's Collections Acquisition, Scholarly Studies and Educational Outreach Program, Research Opportunity Fund and Special Exhibition Fund support research, education and exhibition projects. In FY 1985, total expenses from these programs were \$46,000.

Restricted Funds - These funds are provided from grants, bequests, and other donations from individuals, foundations, organizations, or corporations for specific purposes. In FY 1986 and FY 1987, these funds will support exhibitions such as the following which are described in the preceding narrative: "Gaudi in Context" (estimated expenditures of \$200,000 in FY 1986 and \$243,000 in FY 1987); "Wine" (estimated expenditure of \$32,000 in FY 1986); "Death" (estimated expenditures of \$57,000 in FY 1986 and \$288,000 in FY 1987); "Travel Designs" (estimated expenditure of \$160,000 in FY 1986); and "ManTRANSforms II" (estimated expenditures of \$150,000 in FY 1986 and \$60,000 in FY 1987).

Federal Grants and Contracts - These funds are provided by various government agencies and departments for specific program support. The Museum annually seeks funding in varying amounts from the New York State Council on the Arts for exhibition support and other programs as well. Requests for six separate projects were submitted for possible funding in FY 1986 (estimated expenditures of \$50,000 in FY 1986 and in FY 1987).

NATIONAL MUSEUM OF AFRICAN ART

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds		& Contracts	
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	28	1,188	2	600	-	105	-	58	-	-
FY 1986 -Base	40	2,623	2	55	-	12	-	721	-	-
-PL 99-177***		2,513								
FY 1987 Estimate	55	3,342	1	84	-	8	-	1,188	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	40	15	55
11 Personnel Compensation.....	1,012	317	1,329
12 Personnel Benefits.....	125	39	164
21 Travel.....	36	12	48
22 Transportation of Things.....	35	156	191
23 Rent, Communications & Utilities....	3	-	3
24 Printing & Reproduction.....	260	26	286
25 Other Services.....	400	53	453
26 Supplies & Materials.....	580	50	630
31 Equipment.....	56	62	118
Collections Acquisition.....	116	4	120
Total	<u>2,623</u>	<u>719</u>	<u>3,342</u>

Analysis of Increase

Necessary Pay.....	20
Inflation.....	61
Program Funds.....	638

ABSTRACT - The National Museum of African Art is the only museum in the United States devoted to the collection, preservation and explication (through exhibitions, related educational programs, research and documentation) of the visual arts of Africa. Founded in 1964 as a private institution, the Museum became a bureau of the Smithsonian Institution in August 1979 following the enactment of Public Law 95-414. In mid-1986, the Museum will move from its Capitol Hill location to The Mall as a part of the Quadrangle complex, with its public opening scheduled for mid-1987. For FY 1987, an increase of 9 workyears and \$502,000 is requested to provide necessary support for the Museum's expanded programs in its new location in the Quadrangle. A further amount of 6 workyears and \$136,000 is required to annualize the partial year funding for 14 positions

approved in the FY 1986 budget for Quadrangle-related support. Necessary pay of \$20,000 is required for existing staff and an amount of \$61,000 is requested to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The National Museum of African Art (NMAfA) has a unique role in the United States museum community. As the only museum devoted solely to the collection, study and exhibition of African art, NMAfA endeavors to promote through the visual arts an interest in and understanding of the diverse cultures in Africa south of the Sahara. Although the Museum's primary emphasis is on the traditional cultures of the sub-Saharan region, it also studies, and occasionally exhibits, the ancient and contemporary arts of the entire continent. The Museum develops and implements a variety of interpretive programs: exhibitions, lectures, tours, classes, workshops, audio-visual presentations, and publications. Each program endeavor is motivated by the esthetics of traditional African art, and the Museum actively cooperates and coordinates its activities with those organizations and institutions whose purposes are complementary.

In the spring of 1986, the Museum is scheduled to move to its new location as a part of the Center for African, Near Eastern, and Asian Cultures. During the ensuing months, the Museum's plans and efforts will be directed intensively toward preparations for the scheduled 1987 public opening at which time all museum programs must be fully operational. The funding provided in FY 1985 and FY 1986 and requested for FY 1987 will enable the Museum to strengthen its staff and develop and produce programs in research, exhibitions, collections, and public education and orientation of the highest quality.

Research - During FY 1985, NMAfA completed its initial phase of the Union Catalogue of all African art objects in the collections of the Smithsonian, a project begun in FY 1984 and coordinated for the entire Institution by the National Museum of Natural History/Museum of Man. Computer entries have now been made in a standard format for approximately 6,000 objects in the collection of NMAfA and photographs have been taken of most of the Museum's primary holdings. Ongoing review and revision of these entries will reflect the most current field data and reference literature and assure accurate regional and ethnic style attribution, and when possible, chronological classifications. This information will be merged with similar data on all other African art objects in the Smithsonian collections, enabling collection information to be compiled and presented in a systematic format. The absence of a standard specialized terminology in African art studies has been one of the most difficult aspects of research. The Union Catalogue addresses this need for standardization by utilizing terminology that is suited uniquely to the special requirements of African art research.

A major research component of NMAfA is the Eliot Elisofon Photographic Archive, one of the largest archives in existence on African art, culture and environment. Donations in FY 1985 of nearly 2,000 color slides and 3,500 black and white photographs have increased its holdings to about 35,000 color slides and 38,500 photographs as well as 75,000 feet of unedited film footage and 50 feature films. Among the gifts received in 1985 was a group of over 2,400 field photographs of Nigeria and Zaire, taken between 1949 and 1959, including photographs of the first excavations at Ife and material for a Yoruba art survey. Also received in 1985 was a collection of over 400 vintage field photographs of Zaire, Sudan, the East African Coast, including Zimbabwe, taken in 1932. The staff of the Archive responded to well over 1,000 telephone and written requests for visual information and supplied duplicate slides and photographs to students, scholars, universities, museums and other organizations. Within the Museum, the curatorial and education staff depend upon the Archive for research, exhibition and teaching purposes.

An important aspect of the photo archive is the conservation and preservation of the slides, negatives, prints and film which comprise its holdings. In FY 1985, as part of

this ongoing program, the duplication of 1,400 glass negatives and lantern slides, in order to protect originals from further handling, was begun and the transfer of black and white negatives to archival quality storage sleeves was continued.

The increased funding provided in FY 1986 will enable the Museum to add to the permanent staff a senior curator. NMAfA curators have regional specialization as a result of their graduate training. This assures that expert research work is carried out through the curatorial department on the permanent collection and for exhibitions. The addition of a senior curator assures that research meets the highest professional standards and the administration for that department is well coordinated. The FY 1986 requested increase will also permit the addition to the staff of a secretary to handle correspondence and filing for the entire curatorial department.

Exhibitions - During FY 1985, the Museum presented three major traveling exhibitions, beginning with "Praise Poems: The Katherine White Collection," one of the foremost American private collections of African art, now a part of the Seattle Art Museum, the organizer of the exhibition. This was followed by "African Masterpieces from the Musée de l'Homme," an exhibition organized by The Center for African Art, New York. Consisting of 100 celebrated works collected by early French explorers during anthropological expeditions, or received as gifts, the works are a part of the Musée de l'Homme collection. This outstanding exhibition brought record numbers of visitors to the Museum during its two-month stay. In July 1985, the Museum opened "Igbo Arts: Community and Cosmos," organized by the UCLA Museum of Cultural History, consisting of more than 100 examples of Igbo art from museum and private collections in the United States, Canada, Europe and Nigeria. This first comprehensive survey of Igbo art illustrated the richness and complexity of the diversity of art styles among 10 million people living in southeastern Nigeria. The Museum also continued its popular series of small rotating exhibitions focusing on individual objects in the Museum's collection.

While still operating at its location on Capitol Hill during the first part of 1986, the Museum's exhibition schedule will include: (1) "History, Content and Materials: Objects from the Permanent Collection"; (2) a collection of photographs which were donated to the Museum's photo archive by Constance Stuart Larrabee; (3) "The Rising of a New Moon: A Century of Tabwa Art," a major international loan exhibition of approximately 100 Tabwa objects from European and American public and private collections, organized by the University of Michigan Museum of Art, that premiered at the National Museum of African Art. The final exhibition at the Museum's Capitol Hill location will be "A Human Ideal in African Art: Bamana Figurative Sculpture," an exhibition of approximately 40 sculptures from the Bamana people of Mali, borrowed from museums and private collections in the United States. After the Washington, D. C. presentation, this exhibition will travel to the Metropolitan Museum of Art in New York.

Planning and preparation for the exhibitions, which will open in the Quadrangle in the spring of 1987, are well under way. The major loan exhibition, "African Art and the Cycle of Life," will include objects of the highest esthetic quality, borrowed from public and private collections in Europe, the United States and Africa. Two of the three major opening exhibitions, "African Textiles from the Permanent Collection" and "African Art from the Permanent Collection," will include recent acquisitions, the majority of which have never been exhibited. All exhibitions will include photographic material illustrating aspects of African art, culture and environment.

The funding provided in FY 1986 will permit the Museum to support an expanded exhibition program in the new location, with exhibition space more than four times larger than the Museum's present facility. With the addition of an exhibit production assistant, shop foreman and carpenter, on-site construction of some of the exhibition components can begin immediately following the move to the Quadrangle in the spring of 1986. A graphic designer and a writer/editor who will join the staff in FY 1986 will

assist with the design and production of printed materials such as catalogues, informational brochures, gallery guides, text and photo panels, all of which are planned to accompany the exhibitions. Audio-visual equipment will be installed and program material will be developed to further enhance the visitors' perception of African art in its cultural context.

Since a varied and substantive exhibition program is one of the most effective methods the Museum has to assure public understanding of African art and culture and also to generate new research in the field, the planning and development of future exhibitions is a continuous process. Thus, even before the opening of the inaugural exhibitions in the Quadrangle, planning is under way on those that will follow. As now planned, these future exhibitions will include "Swahili Arts of the East African Coast"; "Bamana Puppets, Masks and Irons"; "African Skeuomorphs"; and "African Master Carvers."

Collections Management - An increase in base funding in FY 1986 will permit the addition to the staff of a photographer to provide an ongoing visual record of collection material (essential to collections management), publications, public information and the Museum's education and outreach programs. The increase will also provide for two temporary museum technicians to assist the Museum's permanent staff in packing and inventorying the entire collection prior to and following the move to the Quadrangle.

Education and Public Orientation - The Museum's programs for education and public orientation are as diverse as the vast audience they serve. Tours for nearly 300 elementary and secondary school groups were scheduled during FY 1985; an equal number of requests could not be accommodated due to space and staff limitations. More than 100 art workshops were presented in FY 1985, including those for children, adults and family groups.

In addition to scheduled tours and art workshops, the Museum also offers outreach programs to schools, senior citizens, and other audiences for whom the Museum is not readily accessible. In FY 1985, outreach programs reached more than 1,500 persons at 100 sites in the Washington metropolitan area. These included special programs presented at St. Elizabeth's and D. C. Children's hospitals, and a pilot African art program at a local elementary school. In conjunction with the Museum collections, research program and exhibitions, a substantive program of lectures, films, and demonstrations was scheduled throughout FY 1985 to enhance visitor appreciation and understanding of African art and culture. For example, a special film series which featured the works of a renowned British filmmaker, Francis Speed, explored the history of ethnographic filmmaking in Africa. For teachers, the Museum created special written material for each exhibition, and offered training workshops to demonstrate how the Museum can serve as a teaching resource within the curriculum.

With a private grant obtained in FY 1985, the Museum produced the first of a series of publications on African art and culture for elementary and secondary schools. This first publication concerned the art and history of ancient African kingdoms. Future publications will focus on artistic techniques such as textiles, ceramics, or the arts of individual regions or ethnic groups.

Collections Acquisition - The Museum's permanent collection of 6,000 objects is its primary resource for research, exhibition, publication and education programs. While the present collection is broad in its sub-Saharan representation, the Museum has worked steadily to strengthen its holdings from the regions of the western part of the Sudan, the Guinea Coast, and central Africa. In order to assure the highest quality and regional scope of the collection, an active acquisition program is essential. The increase of funds received in FY 1986 will enable the Museum to fill systematically some of the most serious gaps in the collection with objects of the finest esthetic merit.

In FY 1985 and through the first quarter of FY 1986, the Museum acquired 107 works of art of which 53 were donated by private collectors. Of the total acquisitions, six were purchased with privately donated funds and six with appropriated funds. Among those acquired with appropriated funds were Ghana, Akan funerary commemorative head; Zaire, Eastern Kuba raffia applique textile; Nigeria, Annang Ibibio shrine cloth; Ghana, Akan man's robe and a Zaire, Tio clay vessel. An extraordinary private collection of 13 objects from various sub-Saharan regions was donated in order to enrich the Museum's permanent holdings in preparation for its opening on The Mall. Of special note in this gift is a Cameroon, Bamum memorial grave figure. It is unique in the corpus of African sculpture and is dated 1908. In addition, in FY 1985 and FY 1986, after having secured Trust funds, the Museum was able to exercise the first two purchase options to acquire 42 works of art from a private European collection.

EXPLANATION OF PROGRAM INCREASE - Quadrangle-related Programs (15 workyears and \$638,000) - For FY 1987, an increase of 9 workyears and \$502,000 is requested to provide necessary support for the Museum's expanded programs in its new location in the Quadrangle, including exhibitions (6 workyears and \$340,000); automation (.25 workyear and \$75,000); research (1 workyear and \$25,000); and education and public orientation (1.75 workyears and \$62,000). A further amount of 6 workyears and \$136,000 is required to annualize the partial year funding for 14 positions approved in the FY 1986 budget for Quadrangle-related support.

-- Exhibitions (6 workyears and \$340,000): - Funding totaling \$1,000,000 was provided in FY 1986 for costs associated with the design and production of exhibitions in the Quadrangle facility. An increase of 6 workyears and \$340,000 is requested in FY 1987 to complete the staffing as planned: to provide the balance of the funding required to produce and install the inaugural exhibitions; and to provide a permanent base for the Museum's future exhibition program. This would allow for the addition to the staff of an assistant in the exhibition design office; a graphic production assistant, who will assist in the production of silkscreened materials; a carpenter and a painter, who will work with the exhibition production unit; and an art handler and a packer, who will assist in exhibition installation as well as the packing/unpacking of loan material (6 workyears and \$129,000). A sum of \$211,000 also is requested for exhibition support costs including packing and shipping (\$150,000); contractual services and insurance (\$25,000); supplies and materials for fabrication and installation (\$26,000); and travel (\$10,000). This funding will be retained in FY 1988 and following years to provide the necessary level of base exhibition support required for the expanded exhibition facilities in the Quadrangle.

-- Automation (.25 workyear and \$75,000): A basic automation program has been developed that would permit registration and curatorial staff to participate in the central collection information system; to permit administrative staff to perform functions efficiently such as as budget control, filing and personnel record keeping; and to equip clerical, public information, education and editorial staff with word processors. Base funding of \$25,000 in FY 1986 allowed the first purchase of automation equipment specified in the basic automation plan (four work stations, printers and software) and necessary training for two staff members. The requested increase for FY 1987 will allow the purchase of additional automation equipment and staff training, as well as software and cost sharing of the central computer system (\$68,000). In FY 1988 and following years, total base funding of \$93,000 will be retained to cover the cost of annual maintenance, additional software, cost-sharing of the central computer system and cyclical replacement of the equipment.

It is anticipated that by the last quarter of FY 1987, sufficient automation equipment will have been procured to require the addition of a computer assistant to assure the most effective use of the equipment and to coordinate data applications (.25 workyear and \$7,000). (Funding for the full-year cost of this position is anticipated in the FY 1988 budget request.)

-- Research (1 workyear and \$25,000): With the funding provided in FY 1986, the Museum added a senior curator to supervise and coordinate all curatorial functions. The requested increase in FY 1987 will permit the addition of an assistant curator for Central African art (1 workyear and \$25,000), thereby providing curatorial specialization for the major sub-Saharan geographic/culture regions -- West, Central and Southern/Eastern -- that are represented in the collection. With the addition of this assistant curator, research can begin on several major exhibitions: Fang (Gabon) masks and reliquary figures, the art of the Luba (Zaire), and a major exhibition on the art of the Kwango Basin (Zaire).

-- Education and Public Orientation (1.75 workyears and \$62,000): With the increased number of visitors anticipated in its new location on The Mall, the National Museum of African Art has begun to strengthen its staff and program support to enable it to develop and conduct public programs for a substantially larger audience. With funds provided in FY 1986, the Museum will add two positions in the education department: an education specialist to conceive and develop special education programs for the general public, and a docent/intern coordinator. FY 1986 funds also provided for the development and production of a new educational outreach program and related printed materials as well as a variety of public information materials such as information flyers, a general museum brochure and public service announcements for both radio and television.

The requested increase of 1.75 workyears and \$62,000 for FY 1987 will allow the addition of an education specialist whose primary responsibility will be elementary/secondary level programming and outreach programs and a secretary to assist the Public Affairs Office with the increased volume of activity that will result from the expansion of the Museum's programs and audience (1.75 workyears and \$39,000). (Funding for the full-year costs of these positions is anticipated in the FY 1988 budget request.) The requested increase will also provide for the production of printed materials related to a series program of combined school and in-house sessions designed to prepare elementary school students for an in-depth exposure to African art and culture at the Museum, as well as the printing and production of a calendar of events (\$23,000).

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from the Museum's share of sales in the museum shop, membership contributions, courses conducted in cooperation with Washington metropolitan area public education institutions and allotments. They are used to provide additional support for the Museum's education and collections acquisition programs, exhibition openings and to defray travel costs associated with meetings of the Museum's Commission. Allotments were provided in FY 1985 and in FY 1986 for the mortgage payments at the present location on Capitol Hill and to support insurance premiums plus the salary costs of two employees. Funds from the Institution's Collections Acquisition, Scholarly Studies and Educational Outreach Program and the Smithsonian Society were used for the acquisition of an extraordinary mid-19th century ivory figure from the Yoruba people of Nigeria. Expenditures under these programs have not been recorded for FY 1986 and FY 1987 which explains the variance in totals shown between FY 1985 and the subsequent two years.

Restricted Funds - Funds provided here are in the form of grants and gifts from individuals, foundations, organizations or corporations for specific purposes. Generally, they provide support for a particular project or exhibition. For example, in FY 1985, a grant received from the Women's Committee of the Smithsonian National Associates Program enabled the Museum to purchase materials used in two educational outreach programs, "Animal Symbolism" and "African Music." A grant from the Friends of the National Museum of African Art provided funds for the purchase of a future acquisition. These funds and those from various individuals and other organizations provided supplemental support for the acquisitions program. A grant from the Shell Companies

Foundation provided funds to begin a publication series for the Museum's Education Department (estimated expenditures of \$10,000 in FY 1986). To supplement appropriated funds for planning and preparation of one of the major inaugural exhibitions, "African Art and the Cycle of Life," a three-year grant from the Cafritz Foundation was awarded in 1985 (estimated expenditures of \$166,000 in FY 1986 and \$78,000 in FY 1987). The Museum is working to secure funds from private sources to strengthen its permanent collection. In this connection, the Museum has been able to acquire a portion of an extraordinary collection of 62 objects of African art assembled over the years by an European collector. The collection, two-thirds of which is in hand, ranges from the 12th to 15th century A.D. to the mid-20th century (estimated expenditure of \$500,000 in FY 1986). An intensive development effort continues to assure the acquisition of the balance (estimated expenditure of \$500,000 in FY 1987). Additional gifts and grants are anticipated to support a special publication program, the first volume of which is titled African Art in American Collections (estimated expenditures of \$19,000 in FY 1986 and \$29,000 in FY 1987).

ANACOSTIA NEIGHBORHOOD MUSEUM

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds		& Contracts	
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	17	817	1	38	-	-	-	1	-	-
FY 1986 -Base	19	888	1	41	-	1	-	1	-	-
-PL 99-177***		852								
FY 1987 Estimate	19	910	1	41	-	1	-	1	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	19	-	19
11 Personnel Compensation.....	517	9	526
12 Personnel Benefits.....	65	1	66
21 Travel.....	5	-	5
22 Transportation of Things.....	4	-	4
23 Rent, Communications & Utilities....	45	2	47
24 Printing & Reproduction.....	35	1	36
25 Other Services.....	76	3	79
26 Supplies & Materials.....	121	5	126
31 Equipment.....	20	1	21
Total	<u>888</u>	<u>22</u>	<u>910</u>

Analysis of Increase

Necessary Pay.....	10
Inflation.....	12

ABSTRACT - Founded in 1967, the Anacostia Neighborhood Museum serves as a national resource for exhibitions, scholarly and applied research, historical documentation, and interpretive and educational programs relating to black history and culture in America. Located in the Anacostia neighborhood in the southeast section of Washington, D.C. (approximately six miles from The Mall), the Museum currently occupies public and exhibition space in the old Carver Theater (2405 Martin Luther King, Jr. Avenue) and an Exhibits Laboratory Building at Fort Stanton Park. No program increase is requested for FY 1987. Necessary pay of \$ 10,000 is required for existing staff and an amount of \$12,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Anacostia Neighborhood Museum is a national prototype for scholarly and applied research, historical documentation, exhibition, and interpretive and educational programs relating to the experience of black Americans and their contributions to science, history and the arts. The Museum serves as a source of materials on black American history for similar institutions around the Nation and demonstrates to other museums and neighborhoods new and innovative ways of inviting nontraditional museum audiences into the worlds of science, history, and the arts. Moreover, the Museum serves as a cultural resource for the people of Anacostia.

Presenting American history from a black perspective through its research, exhibitions and educational activities, the Anacostia Neighborhood Museum also cooperates with other Smithsonian units to strengthen their own capabilities in research and exhibitions on subjects related to black history and culture. The Museum is an active member of the African American Museums Association and works with other museums and research institutions, universities, and archives throughout the United States to enhance the awareness and appreciation of the contributions of black history and culture to American society.

Research - During FY 1985 and FY 1986, the scripting, artifact search and installation were completed for "The Renaissance: Black Arts of the Twenties," an exhibition that evidences a creative way of addressing the problems of American race relations and that evokes a new spirit and sense of racial pride among Afro-American artists. Exhibited during FY 1985, "Black Women: Achievements Against the Odds" was prepared for travel by the Smithsonian Institution Traveling Exhibition Service (SITES) and will be seen by national audiences.

In FY 1986, the implementation of the Checklist of Afro-American Artifacts at the National Museum of American History began and staffing for this joint Anacostia Neighborhood Museum-Museum of American History project was completed. When finished, the checklist will be an invaluable research tool that will enhance the research program at the Anacostia Neighborhood Museum as well as to other scholars and interested public.

A research project begun late in FY 1985, "Black Inventors," will be a major forthcoming exhibition at the Museum. The research is focused on the impact of the contributions of black inventors to the growth and development of the industrialization of America. To support this activity, staff have contacted repositories, private collectors and corporations. In addition, a working bibliography and research prospectus have been prepared. In FY 1986, onsite inspections will be made of collections, working papers, patent drawings, photographs, and memorabilia at nine major repositories.

Research to support the exhibition "P. H. Polk: The Man and His Work" is continuing. In addition to the excellent photographs by Polk that document Southern rural folkways and lifestyles, more information has been obtained from Polk's family history that reveals much about the sensitive and creative man behind the camera's lens. Pictorial information will be supplemented with audio and audio-visual materials from sources such as the Alabama State Oral History Project and the "P.M. Magazine" segment "I Shuttered History."

Basic research has been completed in preparation for the major forthcoming exhibition, "Climbing Jacob's Ladder: One Hundred Fifty Years of Black Church History, 1750-1900" (scheduled for late FY 1987). During FY 1986, the exhibition script will be written and forwarded to the designer and outside readers while the researchers continue the process of loan negotiations begun during FY 1985.

Traveling Exhibitions - In cooperation with the Smithsonian Institution Traveling Exhibition Service, the Anacostia Neighborhood Museum has produced several traveling exhibitions related to the history, culture, and achievements of black Americans,

including "Out of Africa," "Blacks in the Westward Movement," "Black Women: Achievements Against the Odds," and "The Frederick Douglass Years." As part of the commemoration of the Franklin Delano Roosevelt Centennial in 1982, the Museum presented "Mary McLeod Bethune and Roosevelt's 'Black Cabinet'," which became a traveling exhibition after its showing at the Museum. These traveling exhibitions allow the Museum to reach diverse national audiences in addition to those who are able to visit the Washington-based facility. For instance, more than 5,500 students and visitors to the Mary McLeod Bethune Home/Archives and gravesite at Bethune-Cookman College in Daytona Beach, Florida, saw "Mary McLeod Bethune and Roosevelt's 'Black Cabinet'" during the past year as part of the commemoration of the 110th anniversary of her birth. During FY 1985, "Out of Africa" was exhibited at the Boston Afro-American National Historical Site, and "Black Wings: The American Black in Aviation" was exhibited by Broward Community College in Fort Lauderdale, Florida, and by the Federal Aviation Administration in East Point, Georgia.

Exhibitions at the Museum - During FY 1984, Anacostia produced and exhibited a third copy of the National Air and Space Museum exhibition, "Black Wings: The American Black in Aviation," which is presently being toured by SITES. During FY 1985, "Black Women: Achievements Against the Odds" (shown from October 1984 to June 1985), and "The Renaissance: Black Arts of the Twenties" (opened in September 1985 and scheduled to run through December 1986) were presented. "Black Women" presents the adversities, contributions, and varied roles of a representative group of 113 American black women, from the noted slave-poetess Phillis Wheatley (born in 1753) to the distinguished former Congresswoman Barbara Jordan. Designed as a panel show, "Black Women" provides biographical and historical data, characteristic quotations, and little-known vintage photographs of the women highlighted. "The Renaissance: Black Arts of the Twenties" documents and highlights the achievements of the black literary community during the 1920s, including the influences of the leading protagonists and supporters of the "New Negro Movement" and its subsequent impact on the arts. This exhibition, greatly enhanced by material loaned by major archival repositories, the Library of Congress, and private collectors and patrons of the arts, also will feature audio-visual presentations. In FY 1987, two art shows will be presented--one will be the art works of the D.C. Art Association and the second will feature the works of Sam Gilliam and two other local artists.

Exhibition plans for FY 1987 and beyond will continue to emphasize both black history and the role of blacks in American art and culture. "Climbing Jacob's Ladder: One Hundred Fifty Years of Black Church History, 1750-1900" will show the historic black church as truly "a rock in a weary land" and "a shelter in a time of storm." Although the church was first and foremost an agency for lifting the spirit, its concern always extended beyond spiritual needs to include the total aspirations of the community. "Black Inventors" will explore Afro-American contributions to science, creative genius and technology. "P. H. Polk: A Man and His Work" will feature photographs taken by Prentice H. Polk (1898-1985), highlighting southern folklife.

Public Education and Orientation - During FY 1985, Anacostia Neighborhood Museum staff, with the assistance of volunteers, conducted tours for elementary and secondary school groups, gave lectures to museum audiences and academic and professional groups, and developed special presentations and interpretive programs to amplify and support exhibitions. A new program developed in FY 1984, "The Lunch Box Forum," has brought together community residents, colleagues from other Smithsonian museums and other interested individuals in an informal discussion series covering topics of interest to the black community. Participants in the "Forum" have included Dr. Spencer Crew, historian, National Museum of American History on "Afro-American Migration: 1915-1940"; Dr. Gary Puckrein, editor, Visions magazine on "Coming in 1985: A National Magazine of Afro-American Culture"; Mrs. Sylvia Williams, director, National Museum of African Art on "Future Plans for the National Museum of African Art"; Colonel C. D. "Lucky" Lester, USAF

(Ret.) on his experiences as an original member of the Tuskegee-trained 99th Fighter Squadron; Mr. Stanley Anderson, former D.C. councilman, on "Underpinnings of a Neighborhood Museum"; Dr. Audrey Chapman, Howard University, on "Dynamics Women Face in the 1980s: The Black Superwoman, Male/Female Relationships, and the Single Woman"; and Mr. John Kinard, director, Anacostia Neighborhood Museum, on "Perspectives on Africa."

In a workshop, "Using Personal Histories to Motivate Learning," which was sponsored by the Museum, the D.C. Council on the Social Studies, and the D.C. Public Schools Instructional Services Center, teachers viewed the "Black Women" exhibition and heard a colleague of the late civil rights activist, Fannie Lou Hamer, discuss the impact of the Civil Rights Movement on the speaker's life as a youngster growing up in Mississippi. The workshop participants also shared personal histories and ideas for classroom use and sang songs from Movement days. The Museum also sponsored teacher workshops/meetings on "Paper as Art" where participants learned how to make paper and then use it to create a work of art. Other educational programs included a lecture series on black women in politics, science, engineering, the arts, and broadcasting; presentations by master storytellers; and an awards ceremony given in recognition of the services provided by the more than 40 volunteers working at the Museum.

The Museum will continue to strengthen its community relations with schools, senior centers, group homes, and other sites in the Washington metropolitan area, with special emphasis on Anacostia, and will continue to develop assessment programs to measure its effectiveness and to enable the Museum to continue to improve the quality of its services.

Museum Facilities - With funding provided in the Institution's Restoration and Renovation of Buildings appropriation in FY 1984 and FY 1985, construction of the addition to the Museum's Fort Stanton facilities began in FY 1985. The new addition will provide safe and environmentally controlled exhibition areas adjacent to the Museum's Exhibits Laboratory and will include an exhibits staging area that will minimize the period that the Museum must be closed during the dismantling or installation of an exhibition. It is anticipated that construction will be completed in the spring of 1986. The Museum's public exhibition and education facilities then will be relocated to the Fort Stanton building and the lease of the old Carver Theatre will be terminated. It is anticipated that the savings realized by terminating the leases of the Carver Theatre and its adjacent lot will be applied initially to equipping and furnishing the new facility, and in subsequent years to enhancing research and exhibition production capability.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are provided by an annual allotment to cover the salary costs of a woodcrafter. During FY 1986, this woodcrafter will work on panels for hanging art work and build exhibit cases, stands, and frames for the two art exhibitions which will be presented in the new facility. Additional monies, derived from exhibition rentals and donations, are used to purchase supplies and materials to support the Museum's programs.

Restricted Funds - These are in the form of gifts from individuals and organizations and are designated for the support of specific Museum programs.

ASSISTANT SECRETARY FOR PUBLIC SERVICE

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds			
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	25	1,170	34	1,611	1	463	-	80	-	-
FY 1986 -Base	23	1,204	38	1,772	-	159	-	-	-	-
-PL 99-177***		1,190								
FY 1987 Estimate	23	1,257	39	1,887	-	117	-	-	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	23	-	23
11 Personnel Compensation.....	836	8	844
12 Personnel Benefits.....	107	3	110
21 Travel.....	13	-	13
23 Rent, Communications & Utilities....	36	2	38
24 Printing & Reproduction.....	35	22	57
25 Other Services.....	117	13	130
26 Supplies & Materials.....	39	4	43
31 Equipment.....	21	1	22
Total	1,204	53	1,257

Analysis of Increase

Necessary Pay.....	11
Inflation.....	11
Program Funds.....	31

ABSTRACT - The Office of the Assistant Secretary for Public Service encourages and supports the development of programs to advance the Institution's objectives in education, publication, information, folklife programs and the development of wider audiences. This Office advises the Secretary on general policy issues and program planning for Public Service activities. Included in this line item are the Office of Telecommunications, the Visitor Information and Associates' Reception Center, and the Office of Public Affairs. For FY 1987, increases of \$31,000 are requested to conduct an information campaign for the opening of the Quadrangle. Necessary pay of \$11,000 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 - I. Immediate Office, Assistant Secretary for Public Service: With base resources of 4 workyears and \$223,000, the Office of the Assistant Secretary for Public Service provides coordination and supervision of the Institution's educational and public service programs and advises the Secretary on the development of policies and activities for these programs. The bureaus and offices reporting to the Assistant Secretary include: the Office of Telecommunications; the Visitor Information and Associates' Reception Center; the Office of Public Affairs; the Smithsonian Institution Press; Smithsonian magazine; the Office of Folklife Programs; the Office of Smithsonian Symposia and Seminars; and the Office of Elementary and Secondary Education.

II. Office of Telecommunications: With base resources of 5 workyears and \$219,000, the Office of Telecommunications, develops and produces radio, film and television programs on the Smithsonian's myriad activities. Working in close collaboration with the Institution's art historians, scientists, and history scholars, the Office supports educational, research and exhibition programs within the museums and informs the public of Smithsonian research and exhibition programs. The productions created by this Office maintain Institutional standards of historical accuracy and academic excellence. Broadcast in virtually every state over public television and radio, as well as over commercial stations and cable systems, these wide-ranging programs also are available to educational institutions and libraries. The effect of these programs is seen not only in the enthusiastic response from audiences, but in the recognition and prestigious awards received from the broadcast and film industries.

The Office produces three major program series. "Here at the Smithsonian," an award winning series of short video features for news and magazine programs, is now in its fifth season on the air. Carried by over 60 commercial and public television stations, the series has tripled its subscription rate since it began in 1982. "Radio Smithsonian," a weekly 30-minute series is now heard on 84 stations here and abroad. "Smithsonian Galaxy," a series of short radio featurettes, continues to be popular with commercial radio stations. This series enjoys a subscription of 230 stations in the United States and around the world. In FY 1987, the Office plans to continue to produce six features per month.

In FY 1985, the film "The Sea: A Quest for Our Future" was aired nationally by the Public Broadcasting System (PBS). The film is based on research conducted by the Marine Systems Laboratory. A half-hour version of this film has been completed and will be made available to schools and science organizations across the country. "The Work of Peace," the award-winning half-hour film relating the story of the signing of the Treaty of Paris of 1783, was telecast on PBS in June 1985. The Office is now distributing this half-hour film to the educational market nationwide. The Office also produced a half-hour film entitled "In Open Air: A Portrait of American Impressionists" which aired on PBS in July 1985. Produced to accompany a Smithsonian Institution Traveling Exhibition Service exhibition, "In Open Air" explored the lives and careers of late 19th-century artists who revitalized the American painting tradition using the impressionist style. In FY 1985, the Smithsonian's "Festival of India" activities were filmed by the Office of Telecommunications in conjunction with the bureaus involved in the Festival.

Projects currently under development or planned by the Office of Telecommunications include a children's television series entitled "Smithsonian Quest." The pilot for this series is now being completed and it will be used to secure funding for a 26-week PBS children's television series which will draw upon the resources of several Smithsonian bureaus. Work continues on a half-hour updated version of the film "American Picture Palaces," which is being produced for broadcast by PBS. Future plans of the Office include planning and research for a possible series of television programs featuring dialogues between young citizens coming of age and various authorities on aspects of citizenship. This project is intended to coincide with the Bicentennial of the Constitution in 1987, and will supplement the symposium, "Our Constitutional Roots," set

to take place in May 1987. The Office is engaged in the pre-production of a half-hour film on the U. S. Exploring (Wilkes) Expedition of 1838-1842. Working with the National Museum of Natural History's Office of Education, this film is being produced in conjunction with the major exhibition on this subject now being held at the National Museum of Natural History. The film will be circulated throughout the junior high and senior high schools of Washington, D. C. and the Nation. The Office is also involved in a video project, the "Engines of Change" which will complement a major exhibition of the same name to be held at the National Museum of American History in the fall of 1986. The program will portray, in capsule form, the evolution of American technology from the beginning of the Industrial Revolution through the mid-19th century, and set forth the important technological issues facing the United States today.

III. Visitor Information and Associates' Reception Center - With base resources of 2 workyears and \$163,000, the Visitor Information and Associates' Reception Center (VIARC) provides information on Smithsonian exhibitions, events, programs and activities to the public. VIARC administers a range of centralized information and assistance programs serving the public, Associate members, staff, volunteers and interns.

Seven-day-services furnished by VIARC include the staffing of information desks in ten museums by a corps of 400 volunteers and the operation of the primary telephone information service for the public, which also provides 24-hour recorded information on Dial-A-Museum and Dial-A-Phenomenon. VIARC also serves as the primary research, response and referral point for public mail; operates an outreach program to promote pre-visit education; presents a variety of daily slide/lecture orientation programs for visitors; and conducts behind-the-scenes tours of the Castle Building. During the summer months of peak visitation, VIARC's mobile information units on The Mall supplement information services in the museums. In addition, VIARC is responsible for a registration and placement program for the approximately 900 volunteers who assist behind the scenes. To gather the statistical data necessary for annual acknowledgement of volunteer support, VIARC conducts an annual volunteer survey. A similar registration and placement program for interns was initiated in FY 1984. In FY 1985, 440 interns were registered, which exceeded FY 1984 figures by 24 percent.

To strengthen the Institution's ability to inform, orient and serve its millions of visitors, VIARC has developed a multifaceted program to upgrade the visitor services provided by the Institution. Important facets of this project are the development of a better system of identification for Smithsonian facilities; improved pedestrian and vehicular directional signage; general information directories; and the establishment of an Information Center in the Castle Building which will provide a primary central point of information and orientation for visitors.

IV. Office of Public Affairs: With base resources of 12 workyears and \$599,000, the Office of Public Affairs (OPA) is responsible for acquainting the public with the programs and policies of the Smithsonian. This is accomplished by means of news releases, the Smithsonian News Service, feature articles, Research Reports, calendars, radio-television public service announcements, guides, brochures, contacts with individual journalists, and news conferences. OPA provides advice to individual bureaus and offices on public information policies and problems; monitors the units' public information materials, activities and public affairs aspects of their relations with corporate or other sponsors; and reviews the advertising and promotional plans and materials of corporate sponsors. OPA also produces a monthly staff newspaper and informs management of public and media attitudes and needs. The OPA director serves as the principal institutional spokesperson.

The Office's programs serve both the public and the members of the Smithsonian community. Externally oriented programs are generally designed to acquaint the public, via the media, with programs (exhibitions, research, public events and other activities) and

policies in order to encourage public participation in, knowledge of, and support of programs and policies. News releases originating in the various bureaus and in the Office of Public Affairs are used to encourage the media to report on the research, exhibitions and other activities of the Institution.

The Smithsonian News Service provides 1,557 newspapers, including some of the most prestigious in the Nation, with a monthly package of four feature-style articles on subjects in art, history and science, technology and contemporary life. These News Service packages are also distributed to a number of museum and general interest magazines as well as to various publications overseas. In addition, selected articles are distributed by the United States Information Agency to its offices abroad.

OPA publishes a monthly calendar of events in The Washington Post to inform readers of events, lectures, motion pictures and Resident Associate performances, exhibitions, and openings. Also, a Quarterly Calendar of Exhibits containing brief descriptions of all exhibitions having firm opening dates is distributed to news organizations nationally. OPA publishes "The Smithsonian Institution: Yesterday and Today," a 100-page publication designed for journalists and others in need of detailed background information on the Institution, its components, holdings and research. OPA plans a major revision of this publication to include changes of emphasis within the Institution and the opening of the Sackler Gallery, International Center, National Museum of African Art and the Haupt Garden.

The Office of Public Affairs produces Research Reports, a periodical published three times a year. The publication is devoted to reports on research in the arts, history and sciences. Research Reports reaches more than 34,000 readers including the scholarly community, foundations, universities and contributing members. A brochure entitled "Science at the Smithsonian" has recently been prepared to acquaint a broad audience with the range and philosophy of scientific research. This brochure has been distributed to members of Congress, visiting scientists, members of the media and others, and also is being used for development purposes by the Office of Membership and Development. The success of this publication has led OPA to consider the feasibility of a similar brochure on Institution research in the fields of history and art.

The Office publishes a newspaper, The Torch for internal use. The Torch is distributed to over 5,000 staff members of the Institution to keep them abreast of the people-oriented activities of the Smithsonian. The Torch also serves as an historical document and as a source of information for volunteers, docents, members of Smithsonian boards and former employees. OPA also distributes daily throughout the Institution pertinent news clippings from newspapers around the country, as well as transcripts of relevant television and radio news items.

In FY 1985, the Office continued to receive acclaim for the work of its staff. The brochure "Science at the Smithsonian" received an award from the Society of Technical Communication. Research Reports won awards from the American Association of Museums, the National Association of Government Communicators and the Society for Technical Communication. Finally, a 30-second television public service announcement on attractions for children won a Gold Screen award in a major competition sponsored by the National Association of Government Communicators.

The Office of Public Affairs played a major role in the FY 1985 and FY 1986 programs for the Festival of India celebration. The Office of Public Affairs has actively encouraged publicity for Festival activities in India and the United States. To that end, information gathered by a news team sent to India during FY 1985 has been incorporated into a special package of 13 feature stories on aspects of India today.

The Office of Public Affairs is working to improve the effectiveness and distribution of Smithsonian News releases; increase the circulation of the News Service articles

in ethnic newspapers; and improve the use of technological advances to increase the efficiency of processing news items. Additionally, A Guide for Disabled Visitors, a supplement to the Welcome brochure, will be revised and expanded to include not only new activities, but more importantly, to reflect the latest improvements in facilities designed to meet the special needs of handicapped visitors.

EXPLANATION OF PROGRAM INCREASE - Quadrangle-related Support (\$31,000) - A sum of \$31,000 is requested in FY 1987 to finance an information campaign on the opening of the Sackler Gallery, International Center, National Museum of African Art and Haupt Garden. The media information campaign will be coordinated by the Office of Public Affairs in cooperation with the staffs of the Arthur M. Sackler Gallery, the National Museum of African Art, and the International Center.

The programs and exhibitions of the Quadrangle will reflect the efforts of many of the Institution's curatorial and programming components. For the public to understand and to reap the full benefit of this complex and important addition to the international museum and research communities, it is vital that comprehensive and accurate information be made readily available.

The requested increase of one-time costs of \$31,000, would cover the creation of an English Quadrangle inaugural brochure, which would be distributed at the information desks of the Quadrangle and its components, through the mail, and by various other means (\$19,000); the production of a television public service announcement outlining the rich offerings of the Quadrangle (\$9,000); and photographs, slides and press kits (\$3,000). These steps will ensure the success of the Quadrangle and its aims.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - I. Immediate Office, Assistant Secretary for Public Service: These funds are provided by an allotment which covers the salary of three full-time staff members. In FY 1985, Special Purpose funds were provided to support expenses associated with this Office's responsibility for management and coordination of the Festival of India programs and activities (actual expenditures of \$204,000 in FY 1985). This involved planning for the major exhibition "Aditi: A Celebration of Life" and other exhibitions; a special Festival of India component of the Festival of American Folklife, as well as other performances, symposia, workshops and tours. These offerings highlighted the culture, music, dance, science, art, history and life of the country of India. In FY 1986, special outreach efforts are focused on: (1) pan-Institutional cooperation of efforts to reach wider and more culturally diverse audiences; and (2) development of programs appropriate for the opening of the new museums and International Center in the Quadrangle.

II. Office of Telecommunications: These funds are provided by allotments which support nine full-time staff members and expenses associated with the production of educational and informational materials for television, film and radio (estimated expenditures of \$557,000 in FY 1986 and \$590,000 in FY 1987). In addition, a nominal amount of subscription fees is received to help defray some of the production and distribution costs. Additional funds are obtained through sales of films and video tape programs. The Office produces three ongoing series of programs which reach the American public regularly through radio and television. "Here at the Smithsonian" and "Radio Smithsonian" are financed partly by an allotment and partly by subscriber fees. "Smithsonian Galaxy" is supported by an allotment.

III. Visitor Information and Associates' Reception Center: These funds are provided by an allotment and are used primarily to support 22 full-time staff members associated with the Center's work as the Institution's public service bureau responsible for the information and assistance activities described in the above program statement (estimated expenditures of \$731,000 in FY 1986 and \$783,000 in FY 1987).

IV. Office of Public Affairs: These funds are provided by allotments which support four full-time positions and expenses associated with public outreach activities such as publication of the Institution's "Welcome Brochure," Washington Post calendar, advertisements and public service announcements (estimated expenditures of \$378,000 in FY 1986 and \$404,000 in FY 1987).

Overall Special Purpose Funds: The reduction of \$304,000 in expenditures between FY 1985 (\$463,000) and FY 1986 (\$159,000) mainly results from the one-time costs of the Festival of India (\$204,000, Immediate Office, Assistant Secretary for Public Service; and \$4,000, Office of Public Affairs) and the Smithsonian's participation in the 1984 Edinburgh International Festival in Scotland (\$80,000) and funds from the Institution's Collections Acquisition, Scholarly Studies, and Educational Outreach Program and Smithsonian Society (\$5,000, Immediate Office, Assistant Secretary for Public Service; \$6,000, Office of Public Affairs; and \$2,000, Office of Telecommunications). Estimated expenditures through the Collections Acquisition, Scholarly Studies and Educational Outreach Program and the Smithsonian Awards have not been recorded for FY 1986 and FY 1987 which explains the remaining variance in totals for those years.

Restricted Funds - Immediate Office, Assistant Secretary for Public Service: A grant from the Jimmy Carter Inaugural Trust supported the special performance programs and extended hours at selected Smithsonian museums during the 1985 Presidential Inaugural activities staged for the general public (expenditure of \$ 67,000 in FY 1985). A small gift in FY 1985 supported the cost of mounting the "Rosalind Solomon: India" exhibition in the National Museum of Natural History/Museum of Man as part of the Smithsonian's Festival of India activities (actual expenditures of \$3,000 in FY 1985).

SMITHSONIAN INSTITUTION PRESS

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount
FY 1985 Actual	29	1,124	35	13,645	-	49	-	58	-	-
FY 1986 -Base	29	1,121	35	11,975	-	-	-	11	-	-
-PL 99-177***		1,078								
FY 1987 Estimate	29	1,147	37	13,100	-	-	-	-	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	29	-	29
11 Personnel Compensation.....	838	17	855
12 Personnel Benefits.....	121	2	123
21 Travel.....	2	-	2
22 Transportation of Things.....	2	-	2
23 Rent, Communications & Utilities....	8	-	8
24 Printing & Reproduction.....	83	4	87
25 Other Services.....	35	2	37
26 Supplies & Materials.....	9	-	9
31 Equipment.....	23	1	24
Total	<u>1,121</u>	<u>26</u>	<u>1,147</u>

Analysis of Increase

Necessary Pay.....	19
Inflation.....	7

ABSTRACT - The Smithsonian Institution Press is responsible for the editing, design, production, and distribution of printed materials prepared by staff scientists, historians, and curators. Such materials include research monographs, technical and scientific series, exhibition catalogues for Smithsonian museums, educational pamphlets, and informational leaflets. The Press is also responsible for the development, production, and business and marketing functions of the Institution's recordings program. In addition, the Press acts as the official agent of the Smithsonian Institution in procuring printing services from the U.S. Government Printing Office; in creating government forms, guides, instructions, and the like; and in providing professional assistance to

Smithsonian authors upon request. No program increase is requested for FY 1987. Necessary pay of \$19,000 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 Federal publication activity of the Press is a fundamental extension of the Smithsonian's basic research activities. The scientific, technological, and historical monographs published by the Press make the results of research conducted by Smithsonian curators and staff experts available to libraries, museums, scientific institutions, and interested members of the public throughout the world. In addition to publishing research findings, the Press edits and designs exhibition catalogues, educational pamphlets, and informational leaflets that serve the millions of visitors to the Smithsonian in Washington, D.C. and the extensive programs conducted all over the Nation.

The Press also edits, designs, and produces Smithsonian Year, the Institution's annual report to the Regents and the Congress. In addition, the Press is responsible for publishing the annual report of the American Historical Association, and for the procurement and distribution, within the Institution, of a variety of necessary manuals, reports and directories.

Federally funded books published during FY 1985 included: "History of Botanical Exploration in Territorio Federal Amazonas, Venezuela" by Otto Huber and John J. Wurdack (Smithsonian Contributions to Botany, #56); "Geomorphologic Trends in a Glaciated Coastal Bay: A Model for the Maine Coast" by R. Craig Shipp, Stephanie A. Staples, and Walter H. Adey (Smithsonian Contributions to the Marine Sciences, #25); "Giant Camels from the Cenozoic of North America" by Jessica A. Harrison (Smithsonian Contributions to Paleobiology, #57); "Rails of the World: A Compilation of New Information, 1975-1983 (Aves: Rallidae)" by S. Dillon Ripley and Bruce M. Beehler (Smithsonian Contributions to Zoology, #417); and "United States Women in Aviation 1930-1939" by Claudia M. Oakes (Smithsonian Studies in Air and Space, #6).

The publications of the University Press Division of the Smithsonian Institution Press continue to receive acclaim for editing, design and production. The National Association of Government Communicators has consistently recognized Smithsonian editors, to whom it has given more than twenty-five Blue Pencil Awards during recent years for titles such as Washington Deco, Drawn from Nature, and American Popular Song. Design and production excellence has been frequently acknowledged: Drawn from Nature received an award from the Art Directors Club of New York and was cited as one of the best books of the year by the Association of American University Presses.

Federal publishing plans for FY 1987 will be determined primarily by the Press's client bureaus and offices and will depend upon the allocation of funds made available to these bureaus for publication purposes. Press records show that requests for publication have leveled off. Figures over the last several years show 301 jobs sent to the Press in FY 1982, 318 in FY 1983, 314 in FY 1984 and 322 in FY 1985. By mid-January of 1986, 98 publication requests had been received and an estimated 345 requests are projected for the current fiscal year.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived from the sale of Trust-funded books, recordings, royalties, and special publishing services. These areas support ten staff members within the Press's University Press Division, 16 members of the staff of the Smithsonian Books Division, and nine members of the Recordings Program. These funds also support the necessary services required to develop, market, warehouse, and distribute records and scholarly and general-interest books, which are published in connection with the Institution's research, collections, exhibitions, and other programs. Some of the scholarly and trade books published during

1985 include : A Field Manual of the Ferns and Ferns-Ally of the United States and Canada, by David B. Lellinger; A Legal Primer on Managing Museum Collections, by Marie C. Malaro; Aditi, The Living Arts of India; The Mystery of Comets, by Fred L. Whipple; Sharing Traditions: Five Black Artists in Nineteenth-Century America, by Lynda Hartigan; Sculpture and the Federal Triangle, by George Gurney.

The Smithsonian Collection of Recordings has published a number of popular recordings suitable for marketing by direct mail to Smithsonian Associates and other mailing lists. In 1985, Big Band Jazz won two prestigious Grammy awards, presented by the National Academy of Recording Arts and Sciences. The Smithsonian Collection also has issued numerous recordings of scholarly interest, which have enjoyed limited but consistent sales. The program's goals are to continue publishing outstanding recordings and to distribute them in an efficient and cost effective manner.

Smithsonian Books, a division of the Press, publishes illustrated books for a general audience on subjects that relate to Smithsonian collections and research interests. They are marketed primarily by direct mail to Smithsonian Associates and other mailing lists, and also are sold to the general public through several trade publishers. The goals of the program are to continue publishing books of general interest to the Associates that are well-written and carefully researched; and to assure the commercial success and critical acclaim of the publication.

In FY 1985, the Smithsonian Press received a one-time special purpose fund to publish the catalogue for the "Aditi: A Festival of Life" exhibition (expenditures totaled \$49,000 in FY 1985).

Restricted Funds - Funds are provided in the form of gifts and foundation grants from individuals, organizations or corporations for specific purposes. In FY 1985, a gift was used to pay for a portion of the production costs of the book Drawn from Nature (expenditures of \$45,000 in FY 1985).

ASSISTANT SECRETARY FOR MUSEUM PROGRAMS

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
FY 1985 Actual	16	593	-	14	-	82	3	377	-	2
FY 1986 -Base	19	728	-	15	-	53	3	483	-	1
-PL 99-177***		703								
FY 1987 Estimate	19	748	-	18	-	53	3	437	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	19	-	19
11 Personnel Compensation.....	534	13	547
12 Personnel Benefits.....	70	2	72
21 Travel.....	16	-	16
22 Transportation of Things.....	19	1	20
23 Rent, Communications & Utilities....	12	-	12
24 Printing & Reproduction.....	5	-	5
25 Other Services.....	17	1	18
26 Supplies & Materials.....	11	-	11
31 Equipment.....	44	3	47
Total	<u>728</u>	<u>20</u>	<u>748</u>

Analysis of Increase

Necessary Pay.....	15
Inflation.....	5

ABSTRACT - The Office of the Assistant Secretary for Museum Programs assists and advises the Secretary on the coordination and direction of the Institution's central museum support activities; supervises special projects affecting Smithsonian museum operations and facilities; and maintains close ties with national and international museum organizations. The Office also furnishes advice and technical assistance to other museums; performs studies on the effectiveness of museum exhibitions, programs and management methods; conducts training seminars and workshops for museum personnel; and disseminates technical information on museum practices. Also included in this line item is the Office of Museum Programs. The Offices of Horticulture and South Group Buildings Management, which report to this Office, are included in the Facilities Services section of this budget request since their functions relate closely to those of the Office of Plant Services. No program increase is requested for FY 1987. 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 - I. Immediate Office, Assistant Secretary for Museum Programs - With base resources of 7 workyears and \$361,000, this Office administers, oversees, reviews and supports: the Office of Museum Programs; the Office of Exhibits Central; the Office of the Registrar; South Group Buildings Management; the Conservation Analytical Laboratory; the National Museum Act; Smithsonian Institution Traveling Exhibition Service; the Office of Horticulture; Smithsonian Institution Libraries; and the Smithsonian Institution Archives.

In addition, the Office coordinates and supports projects related to the development and improvement of facilities, operational methods, and exhibition programs of the Smithsonian museums, including the Museum Support Center (MSC) and the Collections Management/Inventory Program. Since FY 1979, these responsibilities have encompassed the accelerated inventory effort and the process of refinement and reconciliation of collections records. The Office has worked closely with the General Services Administration, the architects and the museums that occupy the facilities of the Museum Support Center to develop the specifications for the storage equipment to be used, to plan the transfer of the collections, and to implement the operating requirements.

The Office of the Assistant Secretary for Museum Programs works closely with museum organizations and professionals. Among these organizations are the American Association of Museums and the International Council of Museums. This involvement promotes the scholarship, exhibition, and educational functions of museums; encourages the development and application of new techniques for museum administration and practices; and supports museum training programs, particularly those in conservation.

II. Office of Museum Programs - With base resources of 12 workyears and \$367,000, the Office of Museum Programs conducts specialized services and training programs for museum personnel from American and foreign museums. These programs include those designed particularly for the Native American community; internships in museum practices; and visits to the Smithsonian for museum professionals. The Office plans and conducts special conferences and consultations on museum matters and provides program supervision for the Museum Reference Center, which is the major library source for museological information in the United States. The Office also produces informational and audio-visual presentations on conservation and museum practices for distribution to museums and educational organizations. Moreover, the Office currently is involved in a three-year study to investigate how museums can increase their educational contributions to the community. The Museum Training Program offers workshops and seminars taught primarily by Smithsonian staff for individuals employed by museums throughout the United States and abroad. These courses concentrate on improved museum practices in such areas as management, design and production of exhibitions, conservation awareness, educational programming, registration methods and automation, public relations and publications, audiovisuals, library and archival organization, curation and collections management, and security. New subjects offered and planned for FY 1986 include: horticulture in zoological habitats and environments, families in museums, volunteer management, and older adults and museums. In FY 1985, 30 workshops attracted approximately 700 museum professionals.

During 1985-1986, a program of 17 on-site workshops is being conducted. This program makes it possible to present training opportunities to the personnel of local and regional museums who are unable to attend the workshops given in Washington, D.C. In FY 1985, the Office of Museum Programs, working through cooperating museums, conducted two workshops on "Preventive Care of Collections" for museum professionals in Pakistan. This reflects an increasing number of requests, particularly from third world countries, for museum training abroad.

Since 1977, the Office of Museum Programs has served more than 1,000 Native Americans, their museums and cultural institutions through workshops, internships, publications, slide-tape programs and other technical assistance activities geared to the special needs of this community. Since 1974, the audio-visual conservation information program has produced 115 programs and distributed over 7,000 videotapes and slide-cassette programs illustrating museum practices and techniques with emphasis on conservation, care of collections and education. As interest in conservation grows, the national and international demand for use of this unique service increases. "Tribal Archives" produced by the Native American Museums Program received the National Association of Government Communicators' Gold Screen Award for 1984 and "Museum Accessibility for the Visually Impaired," an Audio-visual Program production, received a Merit Award for Accessibility at Superfest, an international media festival on disabilities.

In FY 1985, more than 125 museum professionals and students from the United States and other countries participated in the Museum Practices Internship Program conducted by the Office in cooperation with various bureaus and offices of the Institution. This program places interns with those Smithsonian units that can provide the appropriate experience to the individuals. In addition, a special Museum Careers Seminar is offered regularly by the Office to all Smithsonian interns. The number of such interns has been growing and is expected to increase during FY 1986. More than 160 museum professionals, almost half from foreign countries, participated in the Visiting Professionals Program during 1985.

A new program granting awards to minority museum professionals was initiated in June 1984. In FY 1985, 24 minority museum professionals were awarded up to \$500 each to help defray the cost of travel to Washington, D.C., so that they might attend a workshop of their choice and spend a second week in residence at the Institution as a Visiting Professional. Plans are underway to continue the program.

Three major projects consisting of 30-day instructional tours of United States museums for foreign museum professionals are conducted by the Office of Museum Programs with United States Information Agency cooperation and funding. These are: "Education in Museums," a multi-regional program which enjoyed its sixth year in 1985; "Museum Administration," a European regional program now in its third year; and "Collections Management, Preventive Care, and Conservation Awareness" another multi-regional program, which was held for the first time in February 1985. The United States Information Agency has requested a fourth program on museum management for Latin Americans for 1986.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - The Office of Museum Programs has two revolving Trust funds for training and for the audio-visual loan program to accommodate small fees for services. A separate fund records the sale and the biennial revision of the Office of Museum Programs' publication Museum Studies-International, now being distributed in cooperation with the International Council of Museums. An allotment provides for the Awards for Minority Museum Professionals.

Restricted Funds - The Office of Museum Programs received a grant of \$1.1 million from the Kellogg Foundation in 1982 for a project to "expand the educational influence of museums." The purpose of the grant is to enable the Smithsonian to assume a leadership role in the establishment of a network of museums in the United States to examine issues and provide means of implementation so that museums can increase their educational impact in their communities. All aspects of museum operations are being explored with decision-makers from museums and with representatives from other educational resources. Colloquia, regional workshops, demonstration projects, residencies, and videotapes are being organized and presented to involve more than 400 museums (estimated expenditures of \$482,000 in FY 1986 and \$425,000 in FY 1987).

OFFICE OF THE REGISTRAR

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose					
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	1	32	-	-	-	-	-	-	-	
FY 1986 -Base	2	99	-	-	-	-	-	-	-	
-PL 99-177***		95								
FY 1987 Estimate	2	102	-	-	-	-	-	-	-	

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	2	-	2
11 Personnel Compensation.....	46	1	47
12 Personnel Benefits.....	7	-	7
21 Travel.....	3	-	3
23 Rent, Communications & Utilities....	7	-	7
24 Printing & Reproduction.....	1	-	1
25 Other Services.....	8	-	8
26 Supplies & Materials.....	2	-	2
31 Equipment.....	25	2	27
Total	<u>99</u>	<u>3</u>	<u>102</u>

Analysis of Increase

Necessary Pay.....	1
Inflation.....	2

ABSTRACT - The Office of the Registrar is responsible for the development, oversight and coordination of the Smithsonian's collections management policies. This entails advising management on accountability, procedures and information management techniques as they pertain to records associated with collections. To this end, the Office of the Registrar is charged with supervising cyclical collections inventories and other inventory-related activities such as the reconciliation of findings with existing records. No program increase is requested for FY 1987. Necessary pay of \$1,000 is required for existing staff and an amount of \$2,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - In 1976, the Office of the Registrar shifted from an emphasis on records keeping to an emphasis on improving collections management policies and practices in all Smithsonian bureaus.

The Office works with the directors of Smithsonian Institution museums, heads of other collecting units and with registrarial staff in the museums to coordinate development and processing of collections management policy documents and procedures. The Office also maintains close working relationships with other Smithsonian units including the Office of Information Resource Management, the Office of Audits and Investigations, and the Office of General Counsel, all of which have a vital interest in the documentation and accountability of the Smithsonian collections. Through these activities, the Office monitors registrarial and collections management functions and provides regular reports to Smithsonian management on their effectiveness.

In FY 1977, Institutional recognition of the critical role of collections inventory control resulted in the responsibility being given to this Office for the development and application of a basic inventory policy applicable to the initial inventory effort and to subsequent cyclical re-inventories. The Office regularly gathers summary inventory data from all museums and collates it for the management of the Institution.

Other responsibilities of the Office of the Registrar include coordinating the Smithsonian Registrarial Council through which interbureau registrarial business is conducted and cooperative procedures are developed. It is also responsible for maintaining contact with national and international organizations concerned with the application of computers to collections management functions and with other museums involved in the development of systems for similar application. In cooperation with the Office of Museum Programs, the Office of the Registrar conducts regular seminars and workshops on the information management aspects of collections management and on other matters of interest to museum registrars.

The crucial role of records in the inventory process underscores the irreplaceable nature of the Institution's collections records. To assure the safety of these records while making their contents accessible for accountability and research purposes, the Office is responsible for investigating the use of new technologies to generate and maintain security copies of all such records.

CONSERVATION ANALYTICAL LABORATORY

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTE**	Amount	FTE**	Amount
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	32	1,783	-	-	-	29	-	-	-	-
FY 1986 -Base	39	2,019	-	-	-	1	-	-	-	-
-PL 99-177***		1,945								
FY 1987 Estimate	39	2,069	-	-	-	1	-	-	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	39	-	39
11 Personnel Compensation.....	1,209	19	1,228
12 Personnel Benefits.....	139	3	142
21 Travel.....	41	2	43
22 Transportation of Things.....	26	1	27
25 Other Services.....	276	12	288
26 Supplies & Materials.....	131	5	136
31 Equipment.....	197	8	205
Total	2,019	50	2,069

Analysis of Increase

Necessary Pay.....	22
Inflation.....	28

ABSTRACT - The Conservation Analytical Laboratory (CAL) performs research on the conservation-related properties of materials, the improvement of conservation treatment technology, and the extraction of information of historical importance from the material's technical record. Within these areas of interest, it also provides Institution-wide support to conservators and curators in the Smithsonian museums. CAL advises and assists the Smithsonian and other museums in the study, preservation and conservation of objects of artistic, scientific, cultural and historical importance. It conducts basic research in conservation by studying the physical characteristics of materials, the effects of environmental factors and the chemical processes involved in the deterioration of objects, and applies this knowledge by developing and testing techniques for the stabilization of deteriorating objects. Other research seeks to establish the relationship between objects and the societies that produced them, as this is reflected in the material makeup and the manufacturing technology. CAL conducts the

Conservation Training Program at the Museum Support Center, which includes advanced conservation training, supports and organizes workshops and seminars, and provides other opportunities for the dissemination of the latest knowledge in the field of conservation to museums and research professionals throughout the United States and the world. No program increase is requested for FY 1987. Necessary pay of \$22,000 is required for existing staff and an amount of \$28,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Conservation Analytical Laboratory is a specialized facility at the Smithsonian devoted to all aspects of the conservation and technical study of museum objects. CAL provides scientifically based examinations of objects, studies the conservation-related properties of their materials, provides treatments for their protection and preservation, and performs analyses and technological studies of objects to elucidate their cultural and historical context. Furthermore, CAL gathers and disseminates conservation information to assist museums, both within the Smithsonian as well as elsewhere, in the care of their collections; monitors and advises on the environmental conditions in which Smithsonian museums display and store their collections; and conducts and assists conservation training programs.

CAL's activities are carried out in a number of interrelated programs--Conservation Treatment, Conservation Science, Archaeometry, Information, and Conservation Training. CAL's unique combination of research and practical conservation work enables the knowledge gained from state-of-the-art scientific research to be applied directly to the actual treatment of objects. Moreover, the diversity of the objects treated and the wide variation in their state of preservation provide a unique opportunity to develop the experience needed to define directions for scientific research in conservation. CAL's milieu of active conservation treatment, supported by specialized scientific facilities and stimulating more basic research in conservation science, is also extremely appropriate for the advanced education of conservators and conservation scientists.

Conservation Treatment - CAL, with its specialized facilities at the Museum Support Center, provides treatments for objects from the collections of all Smithsonian museums which present special conservation problems requiring scientific analysis by conservation scientists and the use of more specialized equipment than is available within the museums. Routine maintenance and less complicated treatments of collection items are performed increasingly by conservation staff members of the individual museums.

A partial listing of items treated during FY 1985 reflects the wide range of expertise represented among the members of CAL's conservation staff: a number of 19th- and 20th-century American furniture pieces (Renwick Gallery, the Cooper-Hewitt Museum and the National Museum of American History); contemporary weavings by Anni Albers (Renwick Gallery); wooden ritual statues decorated with glass beads from Cameroon (Smithsonian Institution Traveling Exhibition Service (SITES)); artists' designs for Mouton-Rothschild wine labels (SITES); plaster sculpture and models by Calder and Kemeyes (National Museum of American Art); numerous works of art on paper including hand-colored mezzotints, linocuts, and watercolor and graphite drawings (National Portrait Gallery); several paintings by Harvey Dunn, depicting World War I battle scenes and executed under actual frontline conditions (National Museum of American History); a contemporary copper sculpture by Claire Falkenstein (National Museum of American Art); and a variety of Middle Eastern archeological objects, including gold, silver, bronze, ivory, ceramic and stone objects, for the exhibition "From Ebla to Damascus" (SITES).

Stimulated by problems encountered during the treatments which they performed, CAL conservators initiated a number of research projects, generally in collaboration with members of the scientific staff, on such subjects as the effects of the materials used in weighting silk on the deterioration of the fibers; the nature of a red discoloration sometimes encountered on white pigments in drawings; metal corrosion processes induced by

fatty acid treatment materials; the effects of fumigation with ethylene oxide on the chemical stability of cellulose materials; and the removal of paper degradation products during washing procedures. CAL conservators presented papers and lectures on these and similar subjects at a number of professional meetings.

A team of CAL conservators and conservation scientists assisted the National Air and Space Museum (NASM) through a comprehensive examination and condition evaluation of the Wright Brothers' Flyer, prior to its restoration by NASM staff members. The results of this examination, which included the scientific analyses of a number of samples taken from various parts of the airplane, aided the staff of the Museum in the planning and execution of the restoration, and was followed by advice on particular phases in that process and by preservation treatment of the removed textile covering.

The program for environmental monitoring in various museums and bureaus continued, using 85 hygrothermographs placed in 13 Smithsonian buildings. General fumigation activities were suspended because of the dangerous nature of the chemicals involved and the difficulty in maintaining adequate safety at the facilities on the Mall. Fumigation will resume upon the completion of the new facilities at the Museum Support Center late in FY 1986.

Conservation Science - The conservation scientists at CAL are involved in a wide variety of research projects while providing analytical and technical support services to conservators and curators Institution-wide. Research activities, often performed in collaboration with conservators, relate to conservation problems of a broad interest to museum professionals, while service activities involve chemical and physical analyses and technical examinations of objects from the Institution's collections which help to provide a basis of knowledge and understanding from which specific preservation measures for the object can be formulated.

During FY 1985, a study was undertaken of the effects of high energy electromagnetic radiation (like that emitted by X-radiography machines) on the aging properties of oil paint media. This study is also expected to yield general kinetic observations on the degradation of oil paints, and the influence of such variables as pigment composition. Research continued on the interaction of the architectural design and climate control in historic structures and other museum buildings, using specially designed electronic monitoring equipment which can be implanted within walls for a continuous record of heat and humidity transport phenomena. Another study involved the measurement of the dimensional changes induced in the joints of wooden flutes by the humidity variations during playing, and the effects of the joint packing material on the physical stability of the wood. In preparation for the fumigation activities at the Museum Support Center, a study was initiated on the effect of the fumigant sulfuryl fluoride on the materials of museum objects. Also, a current bibliography on various aspects of museum pest control was commissioned from a recognized authority on this subject. This bibliography will be made available to other museum professionals. The recently installed gas chromatograph-mass spectrometer enabled CAL scientists to perform highly sophisticated analyses of organic substances and opened new avenues in analytical services and conservation research, including preparations for analytical projects on resins of ethnographical importance and on historic pharmaceuticals.

Conservation scientists supplied a wide variety of support services, including the testing of materials to determine their suitability for storage or exhibition of museum objects, including storage equipment proposed for use in the Museum Support Center. Scientists also presented papers and lectures at a number of professional meetings.

Archaeometry - The field of archaeometry integrates the scientific analysis of objects with their archeological, anthropological, art historical and cultural backgrounds. The analyses provide curators, archeologists and historians with basic

research data concerning materials, dates, attributions and historical technologies. In combination with contextual information, typological and stylistic analyses, these data may serve to answer questions of an anthropological or art historical nature.

During FY 1985, work continued on studies of archeological ceramics, involving both compositional and structural analyses, to elucidate questions of provenience and technology. Two areas of major concentration of efforts, in the Middle East and the American Southwest, were identified. For both areas major projects were initiated, aiming at establishing a base of interinstitutional and international collaboration. A new Middle Eastern project, focusing on the archeology of the Indo-Iranian borderlands, complements ongoing research in CAL on Near and Middle Eastern archeological materials and is performed in collaboration with archeologists in Rome and Paris. A project initiating CAL's involvement in American Southwestern archeology, focusing on the relationships between Hopi Pueblos during the migration period (1300 - 1600 A.D.), started in the latter part of FY 1985. In addition, work on ceramics from Mezo and Central America and Spain continued.

In collaboration with scientists at the National Bureau of Standards (NBS) and the Corning Museum of Glass, research continued on provenience studies of ancient bronzes and glasses by means of lead isotope analysis. Another collaborative effort with NBS involved the study of paintings using neutron-induced autoradiography. With this technique, information regarding distribution of pigments below the surface of the painting can be obtained nondestructively. In collaboration with the Metropolitan Museum of Art (MMA), a project on the technique of Rembrandt, started by the MMA in cooperation with Brookhaven National Laboratory, was continued at CAL, while paintings by the American artist Thomas Dewing are studied in a joint program with the National Museum of American Art. Also in collaboration with NBS, studies were made on the application of neutron radiography to the structural study of objects.

The work of CAL's staff is complemented by that of pre- and postdoctoral fellows and research associates. In FY 1985, such research included work on the raw materials of European Iron Age Glass, the use of specular hematite as a pigment on Mayan ceramics, provenience studies of North African medieval ceramics, and Roman period iron technology in Britain.

The Smithsonian Archaeometry Research Collections and Records (SARCAR) database now contains about 22,000 analytical data sets of archeological materials studied at Brookhaven National Laboratory and at CAL. This development will continue in FY 1986. As a result, SARCAR is well on its way to becoming a major research database for archaeometrical studies. Also, an important sample and reference material collection of archaeo-metallurgical interest was donated to SARCAR.

Research continued on the application of electromagnetically induced conductivity measurements for the prospection of archeological sites in the Middle East. This technique, developed at CAL, was used successfully to locate and assess the condition of tomb sites in Bahrain, while preliminary surveys were conducted in Kuwait and Jordan. As with many other archaeometry projects, this research was carried out in close cooperation with the Department of Anthropology of the National Museum of Natural History/Museum of Man.

CAL archaeometry staff members presented papers and lectures at a number of professional meetings. CAL also cosponsors a series of joint seminars with NBS, and another with the Department of Anthropology of the National Museum of Natural History.

Information - CAL's information program seeks to maintain and expand current information files on conservation and archaeometry literature, technical information, commer-

cial products data, and internally generated reports. Among others, a reprint file containing over 12,000 entries, to which annually about 1,500 new entries are added, provides CAL researchers, and others Institution-wide, fast and direct access to almost all literature of relevance in conservation and archaeometry. The information program staff also responds to a large number of public inquiries regarding preservation. During FY 1985, an average of 25 inquiries per week were handled, in cooperation with the expert conservators on the CAL staff. An ever increasing number of requests for information assistance is received from conservators in museums all over the United States. In FY 1986, further progress is expected in the computer-based indexing of the information files.

Conservation Training - During FY 1985, CAL initiated a number of new activities in its conservation training program. These activities endeavored to make significant educational contributions to the field, without as yet embarking upon a program of basic training as presently offered by a number of universities nationwide. CAL is, however, assessing critical needs with regard to conservation training, and the possibilities for the Smithsonian to respond to some of them. CAL's activities to date are based on such assessments. In FY 1985, five advanced specialist courses for conservators were organized. These courses covered a wide variety of topics: suction tables for paper conservation, wood identification, polymer chemistry, conservation of ancient glass objects, and reproduction molding. In addition, CAL cosponsored three other courses on microscopy for conservators and basic metallurgy. These specialty courses, which typically last a few days to a week and are aimed at practicing conservators, cover subjects which normally are not dealt with in general training programs, but are of vital interest for conservators working with certain types of collections. CAL plans to continue organizing such courses in FY 1986.

Another mechanism by which CAL seeks to contribute to the national conservation training effort is through the hosting of interns at various levels of training and experience. In FY 1985, a visiting conservator from the Netherlands spent a half-year in CAL's furniture conservation laboratory. During the summer, four interns worked with the textile conservator as part of their training elsewhere. Two candidates were selected for student internships of one year, one of which started in late FY 1985. CAL also initiated a program of postgraduate conservation internships and the first intern started in late FY 1985.

CAL announced its new training program for furniture conservators. This program, which will consist of a series of intensive courses spread over a three-year period followed by an one-year internship, will start in late FY 1986.

In addition to training conservation professionals, CAL plays a role in providing conservation-related education for other museum professionals. CAL conservators frequently served as faculty for such workshops, both at the Smithsonian and other institutions.

SMITHSONIAN INSTITUTION LIBRARIES

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
			FTP**	Amount	FTP**	Amount				
FY 1985 Actual	91	4,289	9	312	-	11	-	35	-	-
FY 1986 -Base	96	4,664	10	335	-	109	-	10	-	-
-PL 99-177***		4,455								
FY 1987 Estimate	98	4,836	10	351	-	2	-	10	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	96	2	98
11 Personnel Compensation.....	2,503	85	2,588
12 Personnel Benefits.....	314	11	325
21 Travel.....	23	1	24
22 Transportation of Things.....	12	-	12
23 Rent, Communications & Utilities....	56	2	58
24 Printing & Reproduction.....	156	6	162
25 Other Services.....	617	25	642
26 Supplies & Materials.....	444	19	463
31 Equipment.....	539	23	562
Total	4,664	172	4,836

Analysis of Increase

Necessary Pay.....	64
Inflation.....	76
Program Funds.....	32

ABSTRACT - The Smithsonian Institution Libraries (SIL) serves the Institution and the public through: (1) support of Smithsonian research, curatorial, publication and other program activities; (2) direct participation in the creation of a national bibliographic data base; and (3) programs for publications, exhibitions, loan and information services. Its collections of approximately 980,000 volumes, including over 20,000 serial subscriptions, are available to Smithsonian and outside scholars through a system of 15 branch libraries in 36 locations in the Washington, D.C. area, at the Smithsonian Astrophysical Observatory (Massachusetts and Arizona), the Cooper-Hewitt Museum (New York City), and the Smithsonian Tropical Research Institute (Panama). The Libraries also provides coordination and support for other Smithsonian bureaus that administer their own library collections, such as the National Museum of American Art and National Portrait Gallery library and the library of the Center for Asian Art. Moreover,

the Libraries is responsible for the purchase of all books and related materials for other Smithsonian bureaus, and coordinates all requests for automated information sources to avoid duplicative efforts within the Institution. For FY 1987, an increase of 2 workyears and \$32,000 is requested to provide expanded support for the research library collection in the Quadrangle. Necessary pay of \$64,000 is required for existing staff and an amount of \$76,000 is sought to compensate for the effects of inflation in non-salary areas of expense.

PROGRAM - With its collections of approximately 980,000 volumes and its system of branch libraries, the Smithsonian Institution Libraries provides centralized Institution-wide support and specialized branch research collections to serve the research, curatorial and other bibliographic needs of Smithsonian bureaus and staff. The central collections emphasize multidisciplinary research journals, proceedings of academies of science, and interdisciplinary topics such as ecology, exploration and travel, and museology. The specialized collections in the branch libraries are outstanding in natural history, American ethnology and culture, tropical biology, decorative arts and design, astrophysics and the history of science and technology. Rapidly developing collections include aeronautics and astronautics, African art, and conservation research. SIL's collections also include approximately 35,000 volumes of rare books, primarily in the fields of science, technology, applied art, aerospace, and natural history. The largest of these rare book collections is the Dibner Collection in the History of Science and Technology, consisting of 19,000 volumes and manuscripts, which is one of the most comprehensive collection of its kind in the world.

The SIL comprises three operational divisions: collections management, responsible for the selection, acquisition, preservation, and housing of library collections essential to Smithsonian research work; automated systems, responsible for the application of automated systems to support all library functions, including the indexing and automated inventory control of SIL collections; and research services, charged with direct, individual assistance to and interpretation for the scholarly clientele of the Libraries. Through centralization of certain operations, including an interdisciplinary reference/information center, acquisitions and cataloguing units, a consolidated administrative staff, and a conservation laboratory, the Libraries has achieved system and cost efficiencies. Branch libraries housed within the museums and research units of the Institution provide direct services to scholars and others through pertinent book collections and specialized reference services.

Collections Management - This function includes selection, acquisition, deaccessioning, preservation, and determination of collections management policies for SIL. A materials selection committee develops collection policies and recommends books and journals for acquisition. During FY 1985, the Libraries purchased over 7,900 monograph titles and approximately 2,830 serial titles. In addition, the Libraries received a number of gift collections.

The Libraries' conservation program, implemented by a Book Conservation Laboratory, is charged with remedying the deterioration of SIL's valuable materials resulting from improper storage conditions. For the past nine years, SIL has microfilmed books to preserve material that had become too brittle and crumbling to be handled by researchers.

Automated Systems - Sophisticated electronic technologies continue to be fundamental to SIL planning for growth in the areas of information transfer and resource sharing. Since 1974, SIL has used the On-line Computer Library Center, Inc. (OCLC), a national bibliographic data base, as a major data source for creation of its own bibliographic records. SIL has in turn contributed these catalogue records to the OCLC data base, thus sharing with other libraries in the reduction of cataloguing costs while making its bibliographic records available to researchers in all 6,000 member libraries. With

funding provided in FY 1986, the Libraries has begun the last phase of converting its older manual bibliographic records into machine readable format.

The Smithsonian Institution Bibliographic Information System (SIBIS), developed and implemented by the Libraries and the Institution's Office of Information Resource Management, became operational in July 1984. It is anticipated that all component functions of SIBIS will be fully on-line by December 1986. Important advantages for research resulted from the introduction of the SIBIS-SIL on-line catalogue. In addition to having access from all SIL branch libraries, researchers in the field are now able to dial into the SIL catalogue by using a computer/telecommunication link. Eventually, researchers with specific needs can relay them on-line from their offices or elsewhere, saving a visit to the library. Vastly improved searching power (including Boolean search strategies) will allow users to discover documents through approaches not possible before.

Research Services - The Research Services Division of SIL provides a full range of reference support for scholars in all fields of interest to the Institution. Its staff is stretched not only over myriad fields of intellectual inquiry, but also over a very broad geographic area; it is organized in 15 branches operating in 36 different locations in Washington, D.C.; Cambridge, Massachusetts; New York City; and Panama.

In order to locate appropriate sources and provide the information needed by SI researchers, SIL staff makes use of both manual reference tools and on-line data bases. During FY 1985, the 50 SIL branch library staff members answered 140,442 reference questions including on-line searches of automated bibliographic data bases. At least 30,007 items were circulated to Smithsonian staff, and 16,971 photocopies of journal articles and other material were provided instead of circulating originals.

The national system of interlibrary loans, developed by the American Library Association (ALA), allows libraries to supplement their own collections by requesting the loan of material from other libraries instead of having to purchase it. With the development of national bibliographic data bases, such as OCLC, processing of interlibrary loan requests has become much more efficient because requesting libraries can locate all the libraries possessing the needed material at one time through a computer search of the data base and can request the loan of the material by computer as well. To serve research needs which cannot be met from its own holdings, SIL borrowed 17,342 volumes in FY 1985. SIL loaned 4,864 items from its collections to users in other institutions, and staff also photocopied 5,018 journal articles for scholars outside the Smithsonian.

Quadrangle Project: African Art Branch Library - Since the goal of the Quadrangle is to be an educational and research center for non-western cultures, close cooperation between the SIL branch in the National Museum of African Art and the library of the Center for Asian Art is both important and necessary. Through the SIBIS on-line catalogue, both libraries will be able to provide their users with rapid bibliographic searches and a corresponding savings of time and effort in locating relevant volumes.

In FY 1985, the African Art Branch Library began a multiyear acquisition program to develop a collection that will support the expanded level of research that its location in the Quadrangle will require. Upon completion of this multiyear program, the African Art Library's collection will be able to begin to support comprehensive research in the field.

Outreach - The Libraries continues its commitment to national and international responsibilities in the areas of exhibitions, seminars, lectures, publications, and participation in national and international forums.

SIL produces a variety of publications which serve the Smithsonian staff, members of the national and international library and scholarly communities, and the general

public. Two new volumes in the SIL Research Guide Series were issued this year, the first a selective bibliography published by Holmes & Meier entitled African Art: A Bibliographic Guide. The second, Manuscripts of the Dibner Collection: A Guide to Manuscripts in the Dibner History of Science and Technology Collection of the SIL, lists 1,614 manuscripts which reflect the history of science and technology from the high Middle Ages to the present, including papers of nearly every significant contributor to western science and technology during the past 900 years. Other SIL publications distributed included "Saving the Record: A Report on Preserving the Collections of the SIL"; "Book Collecting and the Care and Conservation of Books"; and an illustrated exhibition brochure for the "Panorama of India: Exhibition of Books, Prints and Manuscripts," an exhibition developed by SIL in conjunction with the Smithsonian's participation in the Festival of India.

Acquisitions lists and specialized bibliographies for collections for the National Zoological Park, the National Museum of African Art, the Anthropology Branch Library in the National Museum of Natural History, and the Museum Reference Center library were developed for distribution. In FY 1984 and FY 1985, SIL also presented lectures and seminars on the subjects of book preservation and bibliography. A number of SIL staff participated in presentations to special groups outside the Smithsonian on its collections and services.

With funding provided through the Institution's Special Foreign Currency Program, the SI Libraries administers the Science Information Program for Translations. This translation program, which makes available to American scholars a great number of scholarly articles and monographs on the natural sciences and cultural history originally published in foreign languages, has produced more than 195 published works since its inception in 1959. Beginning in 1985, works to be translated are recommended by a review committee consisting of representatives from the Libraries and several major Smithsonian bureaus. Examples of recent publications include Crayfishes of Mexico (translated from Spanish) and An Outline of the History of Metal Cutting Machines to the Middle of the 19th Century (translated from Russian). Approximately 650 copies of each work translated are distributed gratis to libraries and specialists in the United States and throughout the world.

EXPLANATION OF PROGRAM INCREASE - Quadrangle-related Support (2 workyears and \$32,000) - For FY 1987, an increase of 2 workyears and \$32,000 is requested to provide expanded support for the research library collection in the Quadrangle. With funding provided in FY 1985 and FY 1986, the Libraries has begun the development and expansion of the African Art Branch Library to support the bibliographic needs of the research programs in the Quadrangle. To satisfy the higher level of research support required by the expanded collections and the increased numbers of scholars who will use the library's resources in the Quadrangle, two library technician positions are requested (2 workyears and \$32,000). With the addition of these two new positions (originally sought in the FY 1986 budget) the Libraries will be able to offer the full range of reference and central support services to scholars throughout the Smithsonian and from other institutions who use the library collections in the Quadrangle.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by allotments and are used primarily to support 10 full-time positions and related support costs including supplies, book binding and training (estimated expenditures of \$333,000 in FY 1986 and \$349,000 in FY 1987). In addition, a special purpose fund is currently being used to purchase books to support general research (estimated expenditures of \$102,000 in FY 1986).

Restricted Funds - These are provided through gifts and grants from individuals, foundations, endowments, organizations or corporations for specific purposes. For

example, restricted funds were used to publish Manuscripts of the Dibner Collection: A Guide to Manuscripts in the Dibner History of Science and Technology Collection of the SIL. A gift from the Dibner family provides funds for the purchase of rare volumes on the history of science (estimated expenditures of \$5,000 in FY 1986 and in FY 1987). A grant from Time-Life will support the preparation costs for a future publication on international exhibitions (estimated expenditures of \$5,000 in FY 1986 and in FY 1987).

OFFICE OF EXHIBITS CENTRAL

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds			
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	44	1,470	-	-	-	87	-	-	-	-
FY 1986 -Base	42	1,603	-	-	-	32	-	-	-	-
-PL 99-177***		1,543								
FY 1987 Estimate	46	1,774	-	-	-	2	-	-	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	42	4	46
11 Personnel Compensation.....	1,240	96	1,336
12 Personnel Benefits.....	157	15	172
21 Travel.....	3	-	3
25 Other Services.....	64	3	67
26 Supplies & Materials.....	94	55	149
31 Equipment.....	45	2	47
Total	<u>1,603</u>	<u>171</u>	<u>1,774</u>

Analysis of Increase

Necessary Pay.....	21
Inflation.....	9
Program Funds.....	141

ABSTRACT - The Office of Exhibits Central (OEC) is an in-house resource of highly skilled exhibition specialists and well-equipped shops that participates in and supports the exhibition and exhibit-related programs of the Smithsonian Institution. These resources provide exhibit capability to Smithsonian units without full-time or specialized exhibition staff and supplement the capability of those units that have their own staff. OEC services are strictly museum-oriented, recognizing the demand for accuracy, meticulous attention to detail and extreme care in the handling of museum objects. The great majority of OEC projects are one-of-a-kind tasks, custom designed and produced for the exhibition of specific objects from the collections of the Institution or from other museums or private collections. For FY 1987, an increase of 3 workyears and \$126,000 is requested to support expanded OEC activities for exhibition and related needs of the International Center located in the Quadrangle and to supplement the exhibition capabilities of the National Museum of African Art and the Sackler Gallery. A further amount of 0.5 workyear and \$15,000 is required to annualize the partial year

funding for 1 position approved in the FY 1986 budget for Quadrangle-related support. Necessary pay of \$21,000 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 Office of Exhibits Central provides professional services in the fields of exhibition design, label writing and editing, and a full range of exhibit production capabilities geared to the particular demands of museum presentations. The OEC Fabrication Unit includes a fully equipped cabinet shop, a custom paint shop and a sheet plastics shop experienced in the uses of all types of acrylics including ultraviolet filtering materials. The OEC Graphic Production Shop includes a complete state-of-the-art photo silkscreen lab, photo mounting capabilities and a staff trained in conservation-correct mounting and framing of original art works. The OEC Model Shop utilizes the most recent techniques of fluid and thermo-setting plastics as well as the more traditional materials and methods to create museum models and replicas of all types and sizes. The shop also provides a limited capability in freeze-dry taxidermy and fabricates custom mountings and brackets for all types of museum objects.

During FY 1985, the Model Shop completed work on a reconstruction of the jaw of a prehistoric shark, Carcharodon megalodon, containing over 300 teeth. This project required almost three years of development studies working with scientists from the National Museum of Natural History and the American Museum of Natural History. Three full-sized clay models of the over six-foot-high open jaw were required to finalize the correct anatomical detail. OEC model makers worked on other projects while the scientists checked these models against their formulations and developed the adjustments needed for scientific accuracy. The finished model will be installed in the Dinosaur Hall of the National Museum of Natural History and the molds will be loaned to the American Museum of Natural History so that a similar model can be produced for their exhibits. This year, the Model Shop made a life mask of Senator Edwin J. Garn, the first United States Senator to travel on the Space Shuttle. This mask, sculpted to a life-size mannequin dressed in a space shuttle uniform, will be used in an exhibition in the National Air and Space Museum. The Shop also produced exact models of owls' eggs for the National Zoological Park's Education Department. During the past year, OEC prepared mountings and brackets for over 300 museum objects, the majority of which were for the Smithsonian Institution Traveling Exhibition Service (SITES) exhibition "From Ebla to Damascus."

"From Ebla to Damascus," one of the 30 exhibitions designed and produced in FY 1985 for SITES, was the largest and most complex project undertaken during the past year by OEC. This exhibition contained over 300 archeological objects recovered in Syria, which vary in size and mass from a cylinder seal approximately one-half inch long to a Cult Basin of stone weighing 1,600 pounds, as well as 68 exhibit panels of interpretative and historical information. Earlier in FY 1985, OEC and SITES staff returned the exhibition "Treasures from the Smithsonian Institution" from Edinburgh, Scotland. Over 250 objects were safely returned to the 13 Smithsonian museums that participated in this major program of the Institution.

In FY 1985, OEC again provided graphic production support for the Festival of American Folklife, silkscreening and mounting 150 photographs on 123 panel surfaces that were installed on the Festival grounds. OEC also provided support to the Smithsonian Associates by designing, writing and editing, and supervising the printing of more than 70 brochures for its travel programs. Similar support also was provided for the Craft Show and Christmas programs of the Women's Committee of the Smithsonian Associates.

The OEC Fabrication Unit has also completed the second group of custom exhibition cases for installation at the Cooper-Hewitt Museum. These cases, designed by Cooper-Hewitt designers, were produced in OEC shops and then shipped to New York City where OEC staff installed them into the unique architectural interior galleries of the

Cooper-Hewitt. In all, the OEC accepted and completed over 250 separate projects for Smithsonian units this year.

OEC staff continue to serve as faculty in the "Workshops for Museum Professionals" organized by the Office of Museum Programs and to consult on Institution-wide planning for exhibitions, graphics, and the design and uses of public spaces on The Mall and in the Smithsonian museums.

EXPLANATION OF PROGRAM INCREASE - Quadrangle-related Programs (3.5 workyears and \$141,000) - For FY 1987, an increase of 3 workyears and \$126,000 is requested to enable the Office of Exhibits Central to expand its support for exhibition and related needs for the Quadrangle. A further amount of 0.5 workyear and \$15,000 is required to annualize the partial year funding for 1 position approved in the FY 1986 budget for the Quadrangle-related support.

With funding provided in FY 1986, OEC will hire one exhibit specialist to assist with the preliminary designs and models for the planned exhibition space of the new Quadrangle facilities. The requested increase for FY 1987 will allow the hiring of two additional exhibit specialists and one model-maker (3 workyears and \$75,000), who will help produce cases, mount artifacts, develop and edit descriptive labels, and silkscreen exhibit materials for exhibitions being planned for the International Center and for SITES' new display spaces in the Quadrangle. In addition, this increase in staff will allow OEC to provide the specialized exhibition services necessary to supplement the exhibition capabilities of the National Museum of African Art and the Sackler Gallery as they develop the initial installation of permanent exhibitions in their new locations. A sum of \$51,000 also is requested to purchase support items such as hand tools, exhibit materials, and safety equipment needed in the production of exhibitions.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are provided by tuition fees received from local universities, proceeds from the sale of the OEC book A Freeze-Dry Manual through the Smithsonian Institution Press and reimbursements from internal Smithsonian units. These funds are used to purchase supplies, materials and services in support of OEC activities, to defray costs associated with special events and, as needed, to supplement a portion of travel expenses associated with consultation with other museum professionals (estimated expenditures of \$32,000 in FY 1986 and \$2,000 in FY 1987).

SMITHSONIAN INSTITUTION TRAVELING EXHIBITION SERVICE

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	6	332	23	1,561	3	413	1	651	-	13
FY 1986 -Base	8	407	31	1,840	-	2	1	1,300	-	-
-PL 99-177***		363								
FY 1987 Estimate	15	601	33	2,005	-	-	1	560	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	8	7	15
11 Personnel Compensation.....	244	154	398
12 Personnel Benefits.....	36	19	55
21 Travel.....	10	-	10
22 Transportation of Things.....	64	3	67
23 Rent, Communications & Utilities....	17	1	18
25 Other Services.....	28	1	29
26 Supplies & Materials.....	8	16	24
Total	407	194	601

Analysis of Increase

Necessary Pay.....	6
Inflation.....	5
Program Funds.....	183

ABSTRACT - The Smithsonian Institution Traveling Exhibition Service (SITES) provides an important national service by offering carefully-selected, well-designed and widely-circulated traveling exhibitions covering a broad range of subject matter in the fields of art, design, technology, history, science, anthropology, space, education, and the environment. These include exhibitions from the Smithsonian's collections as well as those organized and loaned by other museums in the United States and abroad, foreign governments, private individuals, and organizations throughout the world. During the spring of 1986, facilities for SITES will be relocated in the Quadrangle. For FY 1987, an increase of 2.25 workyears and \$54,000 is requested to reinforce SITES' staff support for its expanded program responsibilities in the Quadrangle. A further amount of 4.5 workyears and \$129,000 is required to annualize the partial year funding for 6 positions approved in the FY 1986 budget for Quadrangle-related support. Necessary pay of \$6,000 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 Smithsonian Institution Traveling Exhibition Service is the primary Smithsonian organization which originates and circulates traveling exhibitions. SITES (the largest service of its kind in the United States) provides a broad selection of exhibitions encompassing the diverse disciplines and subject matter represented in the collections of the Smithsonian, including art, natural history, design, archeology, anthropology, science and technology, decorative arts and crafts, and popular culture. SITES exhibitions are complete programs accompanied by curatorial and registrarial information, handling instructions, technical information, publicity materials, suggested educational activities, and, in most instances, exhibition catalogues. SITES also provides professional assistance to the museum field on a variety of topics including shipping and insurance of artifacts, installation techniques, exhibit security, design and upgrading of exhibition space, and contract matters.

SITES represents an important outreach and service program of the Smithsonian, sponsoring over 120 exhibitions in continuous circulation. These exhibitions are seen by approximately eight million people each year through local museums, galleries, and educational and cultural institutions in the United States and abroad. Since its establishment in 1952, SITES exhibitions have reached an audience of over 100 million people in 15,000 communities. Over 9,000 institutions receive Update, SITES' annual catalogue describing the available traveling exhibitions and publications; SITELINE, a quarterly newsletter; and special mailings providing information on specific exhibitions.

SITES' exhibitions are an essential element in the program and resource planning of thousands of exhibition-sponsoring organizations. These organizations benefit directly from the traveling exhibitions by being able to present an exhibit in their community for a fraction of the cost required to develop and produce the exhibition for themselves. The Federal support received by SITES allows exhibitions to be developed, toured and provided to these organizations at an affordable participation fee. Federal funding constitutes only 15 percent of SITES' total operating budget; the remainder is provided through exhibition fees, nonappropriated Trust fund support from the Institution, and outside grants and contracts. This Federal assistance, however, is essential to ensure that fees paid for exhibitions remain within the budgetary reach of participating museums and galleries across the United States -- during FY 1985, 35 percent of SITES' traveling exhibitions were offered to exhibitors for a participation fee of \$1,000 or less.

During FY 1985, a total of 354 bookings for SITES' shows were scheduled in 208 cities in 44 states and the District of Columbia:

Alabama	7	Missouri	9
Alaska	2	Montana	1
Arizona	2	Nebraska	1
Arkansas	6	New Hampshire	1
California	17	New Jersey	2
Colorado	6	New Mexico	4
Connecticut	11	New York	21
Delaware	3	North Carolina	11
District of Columbia	10	Ohio	12
Florida	36	Oklahoma	6
Georgia	8	Oregon	3
Hawaii	1	Pennsylvania	8
Illinois	16	Rhode Island	1
Indiana	8	South Carolina	3
Iowa	16	Tennessee	24
Kansas	11	Texas	2
Kentucky	3	Utah	1
Louisiana	12	Vermont	2
Maryland	6	Virginia	5
Massachusetts	20	Washington	3
Michigan	11	West Virginia	3
Minnesota	4	Wisconsin	9
Mississippi	6		

SITES' traveling exhibitions also provide the opportunity for people in other countries to learn about American history and culture. During FY 1985, "American Porcelain" traveled in India; "A Cartoon History of United States Foreign Policy, 1776-1976" traveled in Spain; and "Good as Gold: Alternative Materials in American Jewelry" visited Latin America. A total of 22 exhibition bookings were scheduled for travel outside the United States in FY 1985. SITES also cooperated with the Office of Exhibits Central in the staging and safe return to the United States of the exhibition "Treasures from the Smithsonian Institution," after a successful presentation at the Edinburgh International Festival in Scotland.

SITES estimates that 52 new traveling exhibitions will begin their tour during FY 1986 and FY 1987. Major new exhibitions include: "Hollywood: Legend and Reality," celebrating the creative achievement and cultural influence of American movies over the past 70 years; "After the Revolution: Everyday Life in America, 1780-1800," an exhibition adapted from the new permanent exhibition at the National Museum of American History; "Audubon: Science into Art," from the collection of the American Museum of Natural History in New York; "Artificial Reefs" and "Drawn from the Sea: Art in the Service of Ichthyology" from the National Museum of Natural History; "Surrealist Art" from the collections of the Hirshhorn Museum and Sculpture Garden; and "Magnificent Voyagers," developed in conjunction with the National Museum of Natural History/Museum of Man to commemorate the United States Exploring Expedition of 1838-1842 led by Charles Wilkes. In addition, SITES already has initiated development of 23 new exhibitions scheduled to tour in FY 1988 and following years. SITES' exhibitions, which require at least 12 to 18 months to develop and produce, usually average two years on tour.

EXHIBITIONS BEGINNING TOURS, FY 1986 - FY 1987

Traveling exhibitions developed by SITES serve two primary exhibition functions: to bring the collections of the Smithsonian to national and international audiences, and to cooperate with other museums, organizations and collectors to provide the widest range of

exhibitions available for travel. Therefore, SITES' exhibitions are both produced from Smithsonian sources as well as adapted from other sources. The following list of new exhibitions beginning their tours in FY 1986 and FY 1987 demonstrates the wide range of subject matter covered by SITES' exhibitions:

Based on Smithsonian Sources

FY 1986: "After the Revolution: Everyday Life in America, 1780-1800"; "Carnegie Libraries"; "Comet Quest"; "Drawn From the Sea: Art in the Service of Ichthyology"; "Eleanor Roosevelt: First Person Singular"; and "Surrealist Art from the Hirshhorn."

FY 1987: "Artificial Reefs"; "The Grand Generation"; "Magnificent Voyagers"; and "Portraits in Black."

Based on Other Sources

FY 1986: "American Master Drawings from the Corcoran Gallery of Art"; "Anasazi World"; "The Art of Cameroon" (panel exhibition version); "Audubon: Science into Art"; "Community Industries of the Shakers"; "Contemporary Print Images by Afro-American Artists"; "Dutch Paintings from the National Gallery of Ireland"; "European Illustration 1974-1984"; "French Cinema Posters"; "Haiti: The First Black Republic"; "Hollywood: Legend and Reality"; "Italian Textiles"; "The Laser at 25"; "Leonid Pasternak"; "Mark Twain and Huck Finn: Joy Flags and Milestones"; "The Master Weavers"; "Olga Hirshhorn, Collection II"; "The Paris Style 1900: Art Nouveau Bing"; "Renaissance Master Bronzes from the Kunsthistorisches Museum, Vienna"; "Savory Suppers and Fancy Feasts"; and "Treasures from the Land: New Zealand Craftsmen and Their Native Materials."

FY 1987: "Africa Adorned"; "American Dress-Up"; "Baseball Immortals, 1905-1935: The Photographs of Charles Martin Conlon"; "Childhood in Victorian America"; "Ecuadorian Archeology"; "Endings"; "Estimations"; "Gauguin and His Circle in Brittany: The Prints"; "Irish Decorative Arts"; "The Itinerants"; "Lost Cities, Forgotten Kings: Discovery of the Ancient Civilization of Honduras"; "Martin Luther King"; "Moroccan Jewelry"; "New Horizons"; "Pacific Flyway"; "Pissaro"; "The Promised Land: Five Utopias Compared"; "Site to Sight: Photography in the Service of Anthropology"; "Sound Tracks"; "Swedish Drawings"; and "Vatican Drawings."

Quadrangle-Related Programs - SITES reaches audiences throughout the United States and many foreign countries through its exhibitions, workshops, publications and educational materials. In its new location in the Quadrangle, SITES will, in addition, assume the development of exhibitions and programs that assist in fulfilling the Smithsonian's international mission, thereby reinforcing SITES' specific role in international cultural exchange. The new facilities will include an introductory gallery, educational workshop, exhibition publications reference center, a vault for temporary storage of exhibition objects and materials, and additional meeting rooms.

Introductory Gallery: The Introductory Gallery will provide space where visiting museum colleagues, potential corporate sponsors, exhibitors and lenders will be able to view actual examples of SITES' work, which SITES has no capability of presenting visually in its present location. The Introductory Gallery will present a varied sampling of SITES' materials, including installation of photographs from various exhibitors; educational materials, kits and booklets; video presentations of public service announcements and educational computer software; exhibition catalogues and brochures; posters; extracts from panel exhibitions; and suggested ways to interpret an exhibition that in turn assist museum colleagues to implement certain educational techniques in their own programs.

Educational Workshop: SITES develops and designs the themes and formats of exhibitions by actively involving curators and scholars from a broad spectrum of disciplines.

As a result, SITES has developed one of the most comprehensive and finest quality museum education programs in the world. This includes educational and experiential exhibitions, such as "What If I Couldn't," designed so that general audiences can learn about the special needs of the handicapped; and "Sculpture: Exploring Three Dimensions," a participatory exhibition that involves visitors with the materials and technical processes necessary to produce sculptures. The new educational workshop area will allow SITES to integrate scholarly research and education in the initial stages of exhibition development. Here, SITES, working in collaboration with specialists, will be able to test and evaluate educational materials designed to accompany traveling exhibitions; hold seminars on exhibition design and content, audience identification and development, and public relations techniques; and assist colleagues in the design of outreach programs directed at their own local schools and communities. Students and educators among others play an important role in assisting SITES' evaluation team to test these museum programs, which are then shared nationally and internationally with museums and museum colleagues.

Exhibition Publications Reference Center: Since its inception, SITES has published hundreds of catalogues, scholarly documents, and enrichment materials to accompany traveling exhibitions. SITES' literary offerings continue to grow rapidly, with over 30 publications issued each year. SITES also accumulates slides and photographs that promote exhibitions and educational product offerings. Exhibition publications are exchanged with museums throughout the United States and abroad. The Exhibition Publications Reference Center will enable SITES to centralize its vast and valuable collection of exhibition literature, and become a repository for all SITES' publications and those of many other traveling exhibition services and museums. These resources will be open to colleagues and the public for reference and research and form a core of information upon which SITES' staff will draw for program decisions.

Exhibitions for the International Gallery - In conjunction with the Directorate of International Activities, SITES will organize the inaugural exhibition for the International Gallery in the Quadrangle (scheduled to open to the public in the spring of 1987). This exhibition, entitled "Generations: Birth Rituals and the Roots of Becoming," will focus on the symbols and mythology associated with the advent of life in many cultures around the world. Development of this exhibition will integrate the disciplines of art, anthropology, and history and draw upon the expertise of many Smithsonian scholars from throughout the Institution, as well as other museums and universities. SITES will continue to work with the Directorate of International Activities on the development of future exhibitions to be presented in the International Gallery.

EXPLANATION OF PROGRAM INCREASE - Quadrangle-related Support (6.75 workyears and \$183,000) - For FY 1987, an increase of 2.25 workyears and \$54,000 is requested to reinforce SITES' staff support for its expanded program responsibilities in the Quadrangle. A further amount of 4.5 workyears and \$129,000 is required to annualize the partial year funding for 6 positions approved in the FY 1986 budget for Quadrangle-related support.

To provide public assistance in the Introductory Gallery and the expanded public service functions required by SITES' location in the Quadrangle, a secretary/receptionist (.75 workyear and \$13,000) is requested. Another secretarial position (.5 workyear and \$9,000) would provide support for the Educational Workshop, including assistance in the scheduling and promoting of workshop activities. (Funding for the full year costs of these positions is anticipated in the FY 1988 budget request.) A sum of \$16,000 also is requested to purchase supplies and materials used in producing Introductory Gallery presentations and to develop educational programming for the Educational Workshop.

A registrarial assistant (1 workyear and \$16,000) would allow SITES to maintain its capability to provide prompt and efficient service to exhibitors, expedite the booking procedures, verify the accuracy of exhibition contracts, and promote SITES' exhibitions available for booking. The critical need for this position is underscored by the fact

that the number of institutions served by SITES has grown over the past two years from over 7,000 institutions to more than 9,000 and is expected to increase further as a result of greater visibility in the Quadrangle.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from participation fees collected from museums, universities, historical societies and other users of the traveling exhibitions. These funds, supplemented by an allotment, support 31 positions and virtually all exhibition development costs including publications, materials, outside specialists and contractual services (estimated expenditures of \$1,840,000 in FY 1986 and \$2,005,000 in FY 1987). A special purpose fund for the "Treasures of the Smithsonian" exhibition (actual expenditures of \$370,000 in FY 1985) accounts for the variance in special purpose totals.

Restricted Funds - Funds are provided in the form of gifts and foundation grants from individuals, organizations or corporations for specific purposes. During FY 1985, several grants were received including funding from Time, Inc. for the exhibition "Hollywood: Legend and Reality"; and from Pepsico-International for the exhibition "American Art 1920-1940."

Major funding is expected to continue during FY 1986 for the development of important exhibitions: from the Optical Society of America and the Lasers and Electro-Optics Society of the Institute of Electrical and Electronics Engineers for the exhibition "The Laser at 25"; "The Paris Style 1900: Art Nouveau Bing"; "Five Centuries of Italian Textiles"; "Lost Cities, Forgotten Kings: Discovering the Ancient Civilization of Honduras"; "Renaissance Master Bronzes"; and "Baseball Immortals, 1905-1935: The Photographs of Charles Martin Conlon."

SMITHSONIAN INSTITUTION ARCHIVES

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds		& Contracts	
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	14	511	5	146	-	1	-	-	-	-
FY 1986 -Base	15	539	6	192	-	-	-	-	-	-
-PL 99-177***		518								
FY 1987 Estimate	15	552	7	229	-	-	-	-	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	15	-	15
11 Personnel Compensation.....	402	9	411
12 Personnel Benefits.....	48	1	49
21 Travel.....	4	-	4
22 Transportation of Things.....	1	-	1
24 Printing & Reproduction.....	3	-	3
25 Other Services.....	49	2	51
26 Supplies & Materials.....	18	1	19
31 Equipment.....	14	-	14
Total	<u>539</u>	<u>13</u>	<u>552</u>

Analysis of Increase

Necessary Pay.....	10
Inflation.....	3

ABSTRACT - The Smithsonian Institution Archives is the official archives of the Smithsonian Institution. Its staff appraises, selects, accessions, and administers inactive official records, professional papers of distinguished research staff, and other documentation of lasting historical value on the research, public service, and administrative activities of the Smithsonian in science, technology, history, art, public education and museum operations. These archives serve as the Institutional memory, and they are a vital and valuable source of information not only to the administrators and community of scholars in the Smithsonian itself, but also to the broader community of interested researchers and the general public throughout the country and around the world. The staff of the Archives plans and implements archives and records management programs and projects from a main archives and research facility in the Arts and Industries Building and operates an off-Mall records center for the temporary storage of documentation awaiting appraisal and disposition. No program increase is requested for

FY 1987. Necessary pay of \$10,000 is required for existing staff and an amount of \$3,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The archives program has succeeded over the past ten years in establishing control over a substantial amount of the official records and professional documentation that contain the vital history of the Smithsonian Institution. This has been accomplished by careful, labor-intensive examination of files in operating offices, establishment of disposition schedules arranging for inactive records to be sent to the Archives or discarded if lacking substantial historical value, and by personal oral history interviews with key figures in Institutional development. The archives program is an ongoing process, expanding and evolving to contain new documentation that is being generated constantly. This process is complicated by the fact that there are program and administrative changes every year which must be accommodated not only in the records, but in the program focus of the Archives.

The establishment and growth of the archival program since its inception in the 1960s has reflected the rapid and substantial growth and diversification of the Institution over the past several decades. It also has coincided with dramatic changes in information technology for document reproduction, communications, storage and retrieval in both research and institutional management. The Smithsonian Archives has had to grow and diversify, and it must continue to do so if it is to serve as an adequate official archives of the Institution. The Smithsonian Archives is working with the Office of Information Resource Management, the Office of Facilities Services, the Smithsonian Institution Libraries, and with other offices sharing similar needs and problems to seek ways of ensuring adequate active storage for the growing volume of records used regularly by Smithsonian staff and outside researchers, and to accommodate the requirements of electronic information communications, storage and retrieval.

In FY 1978, there were about 6,000 cubic feet of holdings in the Smithsonian Archives. In FY 1985, there were 12,184 cubic feet. Growth over the past decade was exceptional due to the backlogs of records in operating offices and to the addition of new bureaus and offices. This growth in documentation is expected to continue at the rate of about 400-800 cubic feet per year for the indefinite future. The advent of electronic information storage is not expected to alleviate this condition within the next several years, although it may provide some long-term relief. In the short term, the new technology overlaps existing, on-going storage and processing requirements rather than replacing them, and the Archives must accommodate both the old and the new out of existing resources. In addition to an increase in the volume of materials, there has been an increase in diversity of media beyond the traditional and relatively simple requirements of paper records to a variety of photographic and electronic media, each of which requires specialized equipment and specialized expertise to store, preserve, and use the material.

There has been a corresponding increase in research and reference activity and, this too is expected to grow in the future. In FY 1978, there were 857 reference inquiries (in person, by mail and on the phone), and in FY 1985, there were 1,853. Copying documents for researchers tripled from FY 1984 to FY 1985. In FY 1984, there were just under 8,000 pages and in FY 1985, there was a total of 27,742 pages. As the volume and diversity of holdings has grown, as the descriptions of holdings have become known through publication of the award-winning Guide to the Smithsonian Archives (1983) and as the service provided has improved, so the volume and diversity of inquiries, from routine public curiosity to intensive and extensive scholarly research, also have increased. With the entry of descriptive catalogue data into the Smithsonian Institution Bibliographic Information System (SIBIS), a further leap in the volume of reference inquiries is expected over the coming several years.

A very modest microfilming program has been ongoing at the Smithsonian Archives for a number of years to provide security copies of vital records and to provide substitute

reference images for paper documentation that is rapidly decaying. It is hoped that this program can be supplemented by new technology such as optical scanning and digital storage of imagery. The Archives is cooperating with Smithsonian Institution Libraries and other interested offices to devise the requirements of archives for such technology.

Smithsonian Archives has relieved pressure on the records center space by requesting authorization from originating offices for the early discard of groups of records properly scheduled for such discarding, and some success has been achieved in reducing the temporary holdings scheduled for discard by two or three hundred cubic feet.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are provided by allotments and are used to cover the salaries, benefits, and various support costs for an archivist and an archives technician (estimated expenditures of \$71,000 in FY 1986 and \$106,000 in FY 1987). Funding also has been provided for four positions and support costs for a project to survey the photographic collections of the Smithsonian, to enter the collected information into a data base for on-line automated cataloguing, and to produce the Finder's Guide to the Photographic Collections in the Smithsonian Institution (estimated expenditures of \$121,000 in FY 1986 and \$123,000 in FY 1987).

NATIONAL MUSEUM ACT

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTE**	Amount	FTE**	Amount
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	3	753	-	-	-	-	-	-	-	-
FY 1986 -Base	3	772	-	-	-	-	-	-	-	-
-PL 99-177***		739								
FY 1987 Estimate	3	772	-	-	-	-	-	-	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	3	-	3
11 Personnel Compensation.....	74	-	74
12 Personnel Benefits.....	9	-	9
21 Travel.....	9	-	9
24 Printing & Reproduction.....	7	-	7
25 Other Services.....	19	-	19
26 Supplies & Materials.....	1	-	1
41 Grants.....	653	-	653
Total	772	0	772

ABSTRACT - The National Museum Act of 1966 (20 U.S.C. 65a), as amended, established a technical assistance program, administered by the Smithsonian, to issue grants for projects enhancing the quality of museum operations throughout the Nation. The National Museum Act (NMA) grants allow the Smithsonian to support professional training in museum activities--including collections management, research and exhibitions, education, public relations, and conservation--and to conduct studies on important museum-related problems. Historically, the grant program has attempted to foster a high standard of professionalism in the museum community and to increase awareness of the critical importance of conservation vis-a-vis the care and preservation of our cultural and national heritage. No program increase is requested for FY 1987.

PROGRAM - National Museum Act grants provide training opportunities for museum professionals; support research that advances knowledge about critical museum-related problems; and encourage activities that make technical information available to the field. Grants are made to museums, professional museum organizations and associations, academic institutions with museum-related programs, and in some instances to individuals applying through an eligible organization.

The Advisory Council, which assists in identifying priorities and evaluating projects for which support is requested, is appointed by the Secretary. It consists of

museum and conservation professionals in the principal museum disciplines of art, science and history. In evaluating the applications for assistance from NMA, the Advisory Council makes recommendations that are based on the potential benefit of the projects to the museum field, the quality of the proposals and the qualifications of the individuals involved.

From 1972 to 1985, the National Museum Act processed 2,345 applications for grants and made 791 awards, totaling \$10 million, of which 394 awards (50 percent) involved conservation training and research. In FY 1985, 185 proposals requesting \$3.2 million were submitted and 63 grants were made totaling \$656,863. Of these, 40 grants (63 percent) related to conservation. For FY 1986 funds, 182 applications were received requesting \$2.8 million. To date, 33 awards have been made in three of the six grant categories, totaling \$437,825. Applications in the remaining three categories will be reviewed in February.

Professional Training - In FY 1986, six grants were made to academic institutions offering training programs related to professional museum work. Three of these programs involve conservation training in well-established graduate-level programs. Other grants to academic institutions will support museum studies programs tailored to the needs of future professionals in history and art museums.

Nineteen museums were recipients of internship awards that will enable beginning professionals who have already received academic training to obtain practical experience in museum practices. These awards were distributed to art, history and science museums as well as zoos and herbaria in various regions of the United States. The training at these institutions covers a wide range of museum activities, such as educational programming, curatorial techniques, conservation, methods of interpretation, and registration.

In FY 1985, eleven individuals sponsored by various museum-related institutions received grants under the Stipends to Individuals for Conservation Studies Program to advance their training in conservation. This Program, which was established in 1976 in response to a continuing need for professional conservators in the United States, offers various types of assistance. Some awards involve enrollment in a multiyear formal training program or a short-term specialized course. Others involve an internship of several months duration for conservators already employed by a museum or a nine- to twelve-month internship for recent graduates of a formal conservation training program. Individuals who received awards in 1985 are gaining expertise in many different conservation specialties such as books, paintings, paper objects, and textiles.

In FY 1985 and FY 1986, eighteen seminars for museum professionals were supported in various areas of the country. One pertains to the care and management of photographic collections and another to strategies for preserving tigers in captivity. A museum association in Oklahoma and a regional conservation center in Colorado will be sponsoring conservation-awareness workshops for employees of small and medium-sized museums that have no access to in-house conservation staff.

Research - The National Museum Act has continued to provide support for studies on technical issues that pertain to museums. In recent years, applications submitted to the Act under the Special Studies and Research category have largely related to conservation and have been increasingly technical in nature. Many of them involve research that is contributing to the development of improved techniques for the preservation of objects, specimens, and living animals in zoos and aquaria.

In 1985, ten grants were made on various specialized topics. Two involve environmental or nutrition-related problems associated with maintaining mammals in captivity. One involves establishing guidelines on the proper care of objects in historic adobe

museums and another developing safe techniques for consolidating deteriorating plaster in historic buildings. At an outdoor history museum in Massachusetts, educators will investigate new programs that are specifically geared to adult visitors.

Services to the Field - A portion of the National Museum Act's budget is available each year for projects that provide valuable services to a museum constituency or to museum professionals in general. In 1985, awards were made to two national associations for consultant services that will benefit history museums and museums collecting Afro-American materials. A grant was made to a museum-related organization in New York for a series of data sheets on health hazards in museum conservation, which is an area of increasing concern to conservators, and another to a major art museum in Philadelphia for a publication being distributed to both conservators and the general public on the conservation of outdoor sculptural monuments.

The staffs of the National Museum Act and 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 to better coordinate efforts to meet the increasingly complex needs of museums. The Smithsonian also consults regularly with administrators of Federal museum programs such as the National Endowment for the Arts, the National Endowment for the Humanities, the Institute of Museum Services, and the National Science Foundation to insure the effective and efficient utilization of Federal resources in the museum field.

Status of Authorization - Previously available authority expired September 30, 1982. Funding for the National Museum Act activities has been provided in the Interior and Related Agencies appropriation measures for FY 1983 through FY 1986.

DIRECTORATE OF INTERNATIONAL ACTIVITIES

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds			
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	7	272	9	370	-	-	-	-	-	-
FY 1986 -Base	12	527	11	618	-	100	-	210	-	-
-PL 99-177***		441								
FY 1987 Estimate	13	1,027	11	829	-	150	-	327	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	12	1	13
11 Personnel Compensation.....	324	38	362
12 Personnel Benefits.....	39	6	45
21 Travel.....	16	84	100
22 Transportation of Things.....	9	-	9
23 Rent, Communications & Utilities....	1	-	1
24 Printing & Reproduction.....	15	12	27
25 Other Services.....	102	304	406
26 Supplies & Materials.....	16	12	28
31 Equipment.....	5	44	49
Total	<u>527</u>	<u>500</u>	<u>1,027</u>

Analysis of Increase

Necessary Pay.....	3
Inflation.....	7
Program Funds.....	490

ABSTRACT - The Directorate of International Activities was established in October 1984 to monitor, coordinate, and enhance the Smithsonian-wide array of work in the international field; to be responsible for liaison with Federal agencies and national and international organizations whose activities relate to those of the Institution; to ensure balanced international program emphases, reflecting all world regions and all fields of existing Smithsonian interests from basic research in the natural sciences to popular culture and the performing arts; to assist in developing comprehensive, long-range program plans that will increase the scope, salience, and effectiveness of all the Institution's international activities; and to plan, design, and conduct the programs of the International Center located in the Quadrangle complex. The work of the Directorate

is conducted in three divisions: a program staff primarily responsible for planning the programs of the International Center, and for filling the liaison and coordinating roles of the Directorate, and for administering the Special Foreign Currency Program which provides grants to American institutions for research in "excess" foreign currency countries; an Office of Service and Protocol (formerly the Office of International Activities); and an Office of Publications Exchange (formerly the International Exchange Service). The Directorate also has responsibility for the overall planning of the 1992 commemoration of the landing of Columbus in the Americas. (Responsibility for the administration of the Special Foreign Currency Program was transferred from the Office of Fellowships and Grants to the Directorate of International Activities in October 1985. This Program is described in the separate section of this budget request.)

For FY 1987, an increase of \$449,000 is requested to support exhibition planning for International Center programs (\$141,000); to develop two workshops on tropical biology (\$23,000); to provide automation capability for International Center staff and visiting scholars (\$40,000); and to initiate preliminary Institution-wide planning for the programs and events to commemorate the Columbus Quincentenary (\$245,000). A further amount of 1.5 workyears and \$41,000 is required to annualize the partial year funding for 2 positions approved in the FY 1986 budget for Quadrangle-related support. Necessary pay of \$3,000 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 - In October 1984, the Directorate of International Activities was established to give higher visibility both internally and externally to the international programs of the Smithsonian which date from its earliest days and have continued to be integral to its mandate.

The Office of Publications Exchange fosters international scholarly interchange by enabling universities and learned societies in the United States to exchange their publications with those of corresponding institutions and governments of other countries. In recent years, more than 200 American universities, libraries and other organizations have participated in this international publications exchange. During FY 1985, more than 85,000 volumes were exchanged. In FY 1986, it is expected that this level of service will be maintained.

The Office of Service and Protocol provides the basic services necessary to coordinate the international aspects of Smithsonian research and museum programs, such as obtaining passports and visas for Smithsonian travelers; facilitating communications and logistical arrangements for research and participation in meetings abroad; assisting in the drafting and implementing of agreements relating to international cooperative programs; providing assistance to foreign dignitaries and scholars who participate in Smithsonian programs in the United States; and compiling and updating annually the "Summary Profile of International Activities."

The most recent "Profile" reveals that over the past five years the Smithsonian has conducted over 850 projects in more than 120 countries, reflecting the inherently international character of Smithsonian activities. This wide range of continuing Smithsonian international programs, conducted in large measure in the developing regions of the world, forms the basis for strengthening the Smithsonian's role in international sciences and provides the core subject matter for programs of the International Center in the Quadrangle complex. While the program focus of the National Museum of African Art and the Center for Asian Art will be concerned with the ancient, diverse and complex cultures that extend from the west coast of Africa to the South Pacific, the International Center will not only complement the area interests of these museums, but also focus much attention on Latin America, thereby enabling the Smithsonian for the first time to cover all of the developing world with programs ranging from the scientific and technical to the cultural and artistic. The objective will be to provide all levels of the public with

carefully researched insights into this broad expanse of ancient cultures in new nations, now insufficiently known in the United States.

To transmit to the public, rapidly and comprehensibly, the results of new scientific research and to reinforce and extend the international cooperation essential to the scientific enterprise are the principal thrusts of the Directorate's program activities in FY 1986 and will continue to be in FY 1987.

Reflecting these major purposes, the programs in the International Center will include exhibitions, conferences, colloquia, performances, film showings, lecture-discussion meetings, seminars, symposia and intensive workshops. They will be integrated and thematically planned to promote greater cultural and scientific understanding about peoples and regions of the world and will not be bound within national borders; cultures and natural systems rather than political entities will inspire the programs of the Center.

With initial planning funds provided in the FY 1986 Federal budget and production funding anticipated to be provided by unrestricted Trust funds, the inaugural exhibition and associated programs in FY 1987 will focus on "Generations: Birth Rituals and the Roots of Becoming," an ambitious and unprecedented multi-disciplinary, multi-cultural investigation of the art and rituals associated with birth from ancient times to the present. It will link in a new way the Smithsonian's scholarly resources and collections in its many divisions of arts and humanities, and social and natural sciences, to explore the richness and diversity of cultures worldwide as they celebrate this milestone of the human experience. Of particular importance will be the interpretation of non-Western materials in context, through concentration on the ways certain cultures view this subject, how they incorporate it in their world view, how they deal with its reality as well as its symbolism, and how they express these ideas and concepts in material form.

For several reasons, the exhibition is judged to be an ideal inaugural show: its theme of creation provides a reason to celebrate and parallels the birth of a gallery and the birth of a program; it incorporates a strong didactic component in the context of an aesthetic and scientific presentation; it allows the inclusion of many cultures and complements the presentations of the two Quadrangle museums; it results from new scholarship; it creates a bridge of understanding between the cultures exhibited and the experiences of the viewers; and it allows a cross-disciplinary approach grounded in Smithsonian expertise combining art, history and anthropology.

In FY 1987, planning will begin for the second major exhibition in the International Center Gallery, "Tropical Forests: A Disappearing Treasure," scheduled for a spring 1988 opening. This show gives the Smithsonian a special opportunity to present the results of its scientific work through an exhibition and related programs focusing public attention on the destruction of the world's tropical forests, the Earth's most biologically diverse habitat. The tropical forests are being destroyed at a phenomenal rate; each year an area of tropical forest the size of the state of Delaware is denuded, its richness never to be regenerated.

Deforestation of the tropics is an exceedingly complex ecological, social and economic problem of our times. This destructive trend points the way to massive environmental changes, including the impoverishment of living places for man and of habitats for animal species, the loss of resources for subsistence and development, and the onset of major climatological changes. The exhibition will take a cross-disciplinary approach and will draw extensively upon the Smithsonian scientists at the Tropical Research Institute, the Museum of Natural History and the National Zoo. The goals for this exhibition are not to suggest solutions, but to present continuing programs, in research, conservation and sustainable use, and to alert the public to the necessity to maintain the tropical forests.

Also in FY 1986, the Directorate, in cooperation with the National Academy of Sciences will sponsor a Forum on Biologic Diversity. The Forum will bring together distinguished biologists, economists, historians, policy makers and multinational developers to address a general public audience on the current threats to global biologic diversity. Following a Washington, D.C. presentation, the Forum will travel to locations throughout the United States.

Pursuing the same FY 1986 objective, the Directorate will undertake a pilot three-year program in cooperation with the National Museum of Natural History and the international Man and the Biosphere Program. Initially, the goal is the design of a practical, standardized methodology for collecting and managing biotic inventory and other biological data in all Biosphere Reserves, potential Reserves and other endangered habitats. (A Biosphere Reserve is an area selected for protection and study because it is a representative example of one of the world's major ecosystems.) With such a methodology, comparative work can proceed more efficiently and accelerate the pace of understanding the scope and scale of biological diversity in the world.

Special International Programs - During the next six years, the attention of the Smithsonian and, indeed, the nation will become increasingly focused on the commemoration of the 500th anniversary of the landing of Christopher Columbus in the Americas. For the Smithsonian Institution, this occasion offers and opportunity to take a closer look at the past, present and future implications of the 1492 voyager. The Directorate of International Activities, having overall fiscal and programmatic responsibility for the Institution-wide Quincentenary commemoration, has spent the past year defining its thematic and programmatic approach through a series of conferences with scholars from North and South America and in consultation with the various units within the Smithsonian. This phase of conceptual planning, supported by unrestricted Trust funds, has led to the adoption of an Institutional theme entitled, "Quincentenary: The Americas 1492-1992--Exploration of the Past - Encounter with the Present - Discovery of the Future." In FY 1987, program planning will be initiated by nine bureaus and offices in areas ranging from exhibition conceptualization to publication.

EXPLANATION OF PROGRAM INCREASE:

Quadrangle-related Programs (1.5 workyears and \$245,000) - For FY 1987, an increase of \$204,000 is requested to support exhibition planning for International Center programs (\$141,000); to develop two workshops on tropical biology (\$23,000); and to provide automation capability for International Center staff and visiting scholars (\$40,000). A further amount of 1.5 workyears and \$41,000 is required to annualize the partial year funding for 2 positions approved in the FY 1986 budget for Quadrangle-related support.

-- Exhibition Planning (\$141,000): The second major exhibition in the International Center Gallery, entitled "Tropical Forests: A Disappearing Treasure," is scheduled to open in the spring of 1988. As described earlier, this biologically diverse habitat is disappearing at an alarming rate. The Directorate of International Activities and the Smithsonian Institution Traveling Exhibition Service, together with the World Wildlife Fund, and working with scientists at the National Museum of Natural History, the National Zoological Park and the Smithsonian Tropical Research Institute, will combine efforts and resources to describe this global crisis. The sponsors of the exhibition will focus public attention on the crucial problem of the tropical forest - its ecology, its diversity, the threat to its existence and the efforts being made to preserve it and to utilize it in a more environmentally and economically intelligent way. During the exhibition period, the International Center will present supplemental programs consisting of symposia, lectures, films and other activities relevant to the subject.

In FY 1987, a total of \$141,000 is sought to meet exhibition planning and design costs. The costs would include travel for an exhibition curator to tropical forests

research sites in Central and South America, Africa and Indonesia (\$15,000); services of a film-maker to record crucial sequences for the audio-visual portions of the exhibition and to edit existing footage for exhibition purposes (\$58,000); research and writing for catalogue articles (\$30,000); preliminary conceptual exhibition design (\$20,000); and other curatorial support (\$18,000).

-- Tropical Biology Workshop Development (\$23,000): The requested increase of \$23,000 for tropical biology workshop development will permit the planning of two short courses in tropical biology, beginning in FY 1988. The Institution has significant and wide-ranging interests in Latin America which are divided among various bureaus and programs. The Directorate represents the Institution's commitment to focus attention on the cultures and scientific endeavors of Latin American countries and to expand professional and scholarly collaboration. Latin America will be central to the planning for Quincentennial programs and to the development of an exploration of problems in the world's tropical forests. In recognition of these points, the Directorate proposes to begin a variety of programs based upon its Latin American interests and that also contribute to the exchange of ideas and information on subjects reflecting Smithsonian expertise.

As a part of this effort, the Directorate plans a series of intensive short courses developed and offered by senior Smithsonian staff, to be presented in the International Center and other Smithsonian facilities for selected students and professionals from Latin America. We anticipate beginning with a course in the latest methodologies and research results in tropical biology, followed by one focusing on a specific aspect of tropical biology.

The requested increase of \$23,000 will enable the Directorate to plan the workshop series, develop the syllabus and curriculum, and produce course material. In FY 1988 and following years, it is anticipated that funds will be needed to meet the expenses associated with actually conducting the courses. It should be noted that the Directorate will seek Institution Trust funds in FY 1987 to provide travel and stipends for the participants.

-- Automation and Research Support (\$40,000): A sum of \$40,000 is requested to provide automation capability for the research, exhibition, and information management requirements of International Center staff and visiting scholars. Of this amount, a sum of \$20,000 (originally requested in FY 1986) will permit the purchase of office automation equipment necessary for information management systems and other basic office equipment and supplies for the staff of the International Center. The application of automation will be especially critical in coordinating the scheduling and logistical planning of exhibitions and other International Center programs and in tracking the progress of specific tasks and project management goals.

A further sum of \$20,000 is requested to provide automation and research support for the Visiting Scholars Program at the International Center, established to enhance the international scientific community's access to Smithsonian Institution research resources. It will be necessary to provide these scholars with the tools to make use of various Institutional information sources, the majority of which are either presently, or contemplated to be, available via computer. It is essential that the International Center scholar facilities be equipped with Institutionally compatible automated word processing and computer systems which have the capability to be linked with appropriate local area networks as they develop throughout the Institution. The requested increase will allow the purchase of four computers, printers and peripheral equipment, software, central computer usage, and equipment maintenance. In FY 1988 and following years, this base will be used to provide for maintenance, periodic replacement of the equipment and upgrading of the software.

Columbus Quincentenary (\$245,000): Public Law 98-375 established the Christopher Columbus Quincentenary Jubilee Commission, declaring that "...as the Nation approaches the Quincentennial of the voyages of discovery of Christopher Columbus, it is appropriate to celebrate and commemorate this anniversary...." The Directorate of International Activities will coordinate the Smithsonian-wide planning and development of the wide range of public and scholarly programs and activities that the different bureaus of the Institution will undertake to commemorate the anniversary. The Quincentenary commemoration will provide an opportunity and a challenge. It will be an opportunity to encourage public and scholarly consideration of the significance of Columbus' voyage and to promote better understanding of the Americas as a geographic entity with shared historical roots and concerns for future life in this hemisphere. The Quincentenary will challenge the Institution to take its present research in Latin America and North America in new directions in order to develop a range of programs that synthesize disciplinary perspectives.

Over the past year there has been a concerted effort to identify, within the broad thematic approach, appropriate exhibitions and program ideas which will effectively and accurately present the 1492 encounter in the Americas. As these concepts crystalized, it became clear that there is an Institutional need to strengthen the expertise related to the investigations and explications of a variety of North American and Latin American topics identified by the bureaus. Therefore, to assist the Institution in the realization and implementation of Quincentennial exhibitions and programs, in FY 1987 an increase of \$245,000 is requested. The Quincentenary programs outlined below, although incipient in development, indicate the early planning of nine Smithsonian units involved in meeting the Smithsonian's two-fold objective: the presentation of a complex of thematically integrated programs for the Quincentennial observance itself, and the formation of a solid base of knowledge for the future in order that the commemoration will have a public and scholarly impact beyond the 1992 anniversary.

<u>Bureau</u>	<u>Request</u>	<u>Purpose</u>
National Museum of American History	\$90,000	Exhibition Planning
National Museum of Natural History	40,000	Program Coordination
National Museum of Natural History/ Museum of Man	10,000	Contemporary Folk Literature Archive
Office of Folklife Programs	15,000	Latin American Folklife Festival Planning
National Portrait Gallery	13,000	Exhibition Planning
Hirshhorn Museum and Sculpture Garden	10,000	Exhibition Planning
National Air and Space Museum	17,000	Atlas of the Earth
Smithsonian Institution Press	5,000	Publication Production
Directorate of International Activities	30,000	Seminars, Conferences and Publications
Directorate of International Activities	15,000	Exhibition Planning
Total	\$245,000	

° The National Museum of American History will engage specialists and begin research for a major exhibition focusing upon five centuries of interaction among Native Americans and Europeans in North America with special attention paid to the Spanish influence from the earliest colonial days.

° Program planning by the National Museum of Natural History will focus on one of the most dramatic and pervasive developments arising from the encounter of the old and

new Worlds, the massive alterations of the landscape of flora and fauna, and the attendant environmental changes still prevalent today. The Museum's rich New World collections provide an exceptional base for such a presentation. In order to develop an interdisciplinary program, support is sought for program coordination and consultation with non-Smithsonian scholars.

° The National Museum of Natural History also plans departmental efforts, including a tape archive and publication program of contemporary indigenous folk literature of peoples of the Americas, showing both survival and change in orally transmitted tradition. The project requires funding for Spanish language specialists, travel and equipment.

° Contemporary cultural diversity in the Americas will be the theme for the Folklife Festivals and publications from 1989 through 1992 focusing on the Caribbean and on Latin America. In FY 1987, the Office of Folklife Programs will initiate consultation meetings with scholars from Latin America and begin preliminary planning for the festival series.

° The National Portrait Gallery, plans an exhibition on Spanish portrait, masterpieces, which requires the service of an expert in Spanish art history to prepare a preliminary plan, to locate and inspect appropriate works for inclusion and to begin negotiations with lenders.

° Contemporary visual art in Latin America will be the exhibition topic of the Hirshhorn Museum and Sculpture Garden. This art reflects not only the traditions of the past but the social, political and artistic issues of present-day Latin America. In order to define the type and nature of the exhibition, two study trips are planned to visit centers of art in Peru, Venezuela and Mexico; and Argentina, Uruguay and Brazil.

° The science of map making benefited greatly from the discoveries that Columbus and other explorers made in the New World. Today the advances in technology continue this search to complete knowledge of the geographic world. The National Air and Space Museum proposes to produce an Earth Atlas using remotely sensed images (Landsat satellite photos). Although previous publications of this kind have treated only selected geographic areas, this proposed atlas would include all world areas. Support is requested to perform background research and provide liaison with other agencies.

° The Smithsonian Institution Press will publish a major volume, written by a noted archaeologist on one of the least studied periods of United States history, the Spanish colonial past. In opening up this long-neglected and important subject, this publication will pave the way for the substantial attention that will be devoted in the 1992 observance to early Spanish settlement in North America.

° The Directorate of International Activities will sponsor several seminars and a conference, all examining current research on the cultures of the New World and of Europe before and after the discovery. A new Smithsonian series Quincentenary Papers will publish the proceedings. The Directorate also will sponsor scholarly meetings to plan three interrelated exhibitions in the International Center scheduled for 1990, 1991 and 1992.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by allotments which support all positions and costs associated with the planning and development of research and exhibition programs for the International Center and the Quincentenary commemoration (estimated expenditures of \$618,000 in FY 1986 and \$829,000 in FY 1987). A

special purpose fund will provide stipend support for Third World researchers to participate in Smithsonian-sponsored training courses and workshops (estimated expenditures of \$100,000 in FY 1986 and \$150,000 in FY 1987).

Restricted Funds - These funds are provided from gifts, grants and other donations from individuals, foundations, organizations or corporations for specific purposes, such as mounting exhibitions and staging performances, film showings, and other public presentations in the International Center (estimated expenditures of \$210,000 in FY 1986 and \$327,000 in FY 1987).

AMERICAN STUDIES AND FOLKLIFE PROGRAMS

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTE**	Amount	FTE**	Amount
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	9	698	13	514	-	503	-	320	-	43
FY 1986 -Base	8	711	13	642	-	40	-	379	-	592
-PL 99-177***		681								
FY 1987 Estimate	8	735	13	655	-	40	-	214	-	852

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base <u>FY 1986</u>	Proposed <u>Adjustments</u>	Est. <u>FY 1987</u>
FTE Allocation.....	8	0	8
11 Personnel Compensation.....	341	10	351
12 Personnel Benefits.....	41	1	42
21 Travel.....	10	-	10
22 Transportation of Things.....	5	-	5
23 Rent, Communications & Utilities....	16	1	17
24 Printing & Reproduction.....	51	2	53
25 Other Services.....	176	7	183
26 Supplies & Materials.....	51	2	53
31 Equipment.....	20	1	21
 Total	 <u>711</u>	 <u>24</u>	 <u>735</u>

Analysis of Increase

Necessary Pay.....	11
Inflation.....	13

ABSTRACT - The Office of American Studies and the Office of Folklife Programs are engaged in the study of various aspects of American civilization. The Office of American Studies is active in researching and promoting academic pursuits in the study of material aspects of American society, while the Office of Folklife Programs concentrates on the study and presentation of folk cultures found in the United States. Incidental to the study and presentation of American folkways is a great interest in and exploration of the folklife traditions of other lands. An important activity of the Office of Folklife Programs is the staging of the Festival of American Folklife, which is the largest annual cultural event in the Nation's Capital. No program increase is requested for FY 1987. Necessary pay of \$11,000 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 - I. The Office of American Studies: With base resources of 2 workyears and \$100,000, the Office of American Studies sponsors a graduate program in American material culture in cooperation with various universities located in Washington, D.C., and elsewhere. The Office offers three or four seminars a year for academic credit. These courses are taught by the director of the program and by cooperating scholars.

The graduate program in American material culture provides a means for scholars and students to pursue American studies through utilization of the unique resources of personnel, objects, and archival material available in the various bureaus of the Smithsonian. This program provides opportunities for graduate students in the American studies or American history departments of affiliated universities to undertake a program of formal course work at the Institution. In addition, a number of research grants and fellowships are awarded each year to support specific interdisciplinary research projects in areas of American studies relevant to the interests and resources of the Smithsonian.

II. The Office of Folklife Programs: With base resources of 6 workyears and \$611,000, the Office of Folklife Programs studies the rich variety of folk traditions found throughout the United States and the world. The Office advocates a long-term commitment to the preservation and revitalization of folk cultures which are endangered by the encroachment of modern technological society. To this end, the Office engages in scholarly research to identify and understand folk cultures; presents various aspects of these folk cultures to general and scholarly audiences; collaborates with Smithsonian bureaus in the production of folklife exhibitions; and works closely with government agencies on the development of programs to advance the Nation's interest in America's folklife heritage.

Exhibitions - The Office of Folklife Programs is responsible for fundraising, researching, planning, producing, and presenting the annual Festival of American Folklife. This event has developed a large and loyal constituency throughout the Nation and has stimulated interest in the traditional arts of the regions from which the folk artists at the Festival have come. Such interest has fostered research projects, local festivals modeled after the Smithsonian's Festival, and regional opportunities for traditional craftsmen and performing artists.

In FY 1985, as part of the nationwide Festival of India, an exhibition entitled, "Aditi: A Celebration of Life" was mounted in the Evans Gallery in the National Museum of Natural History. Focusing on Indian ideas of the stages and transitions within the human life cycle, the exhibition featured 1,500 objects of folk art from the many cultures of India and demonstrations by Indian artists and artisans. The Office of Folklife Programs researched, designed and produced the living component of the exhibition. The Office also cooperated with the staffs of the National Museum of Natural History and the Smithsonian Institution Press in researching and designing the entire exhibition, and in editing and designing the exhibition catalogue.

A major Indian component of the FY 1985 Festival of American Folklife consisted of a re-created mela, or holy day fair, replete with bamboo, ceramic tile and woven palm frond bazaar stalls; a wide range of wares traditionally sold at melas; Indian food; and over 70 Indian and Indian-American performers and craftspeople. The mela, which was conceived to complement the "Aditi" exhibition at the National Museum of Natural History in which performers enhanced the meaning of museum artifacts by providing living, contemporary contexts for them, created authentic contexts for the lively performers. The efforts of the Office of Folklife Programs were supplemented by those of the Learning Center of the National Museum of Natural History which presented photographic and textual information on a wide range of topics, including the major religions and cultures of India.

The State of Louisiana was also featured at the FY 1985 Festival with vibrant musical performances and selected crafts and ceremonial traditions. Cosponsored by the Department of Culture, Recreation and Tourism and by the Louisiana Heritage Society, the program represented the cultures of the citizens of Louisiana, including Afro-Americans, Anglo-Americans, Cajuns and other French-speaking groups, Italian-Americans, Native Americans and Spanish-Americans.

In addition, the Festival explored the area of "Cultural Conservation." Performances, demonstrations, discussion sessions and activities at the Learning Center evoked the vitality of traditional cultures, the threats to their survival, and the efforts being made to assist the healthy development and preservation of the cultural integrity of traditional cultures. Other programs at the Festival consisted of demonstrations and discussions of traditional foodways and audience-participatory dance parties, which featured three traditional dance musics--polka, Afro-American blues and Cajun.

Planning is under way for the 20th Festival of American Folklife in 1986. Programs will include the folk cultures of Tennessee and Japan, the occupational folklife of American trial lawyers, a program on cultural conservation, and a 20th-anniversary program honoring outstanding performers who have contributed to this event through the years.

Publications - The staff of the Office of Folklife Programs is involved in a broad range of publication projects that analyze and document folklife traditions. The Smithsonian Folklife Studies Series documents folkways still within memory in a variety of traditional cultures. This innovative Series couples book-length monographs and films to document and analyze particular traditions more fully than would be possible with the single use of either medium. This hybrid format has proved a useful and important tool for the study of cultural processes. Recent publications in this Series have included The Ojibwa Dance Drum: Its History and Construction, a monograph written to accompany the film The Drummer; At Laskiainen, In Palo Everyone is a Finn, a film documenting a Finnish-American mid-winter festival; and The District of Columbia Fire Fighters' Project: A Case Study in Occupational Folklife, a monograph which will accompany a film on the occupational traditions of District of Columbia firefighters.

In addition to the Series, the staff produces scholarly monographs and films on aspects of traditional cultures. Recent titles have included Raised in Clay: The Southern Pottery Tradition, a monograph tracing the development of 35 traditional southern potteries (published by the Smithsonian Institution Press for the Office of Folklife Programs); The Stone Carvers, an Oscar winning film about the traditional craft of stone carving as practiced by the carvers at the Washington Cathedral; Aditi: The Living Arts of India, a catalogue published by the Smithsonian Institution Press to accompany the exhibition "Aditi: A Celebration of Life"; Celebrations, a film with Victor Turner, who was guest curator of the Office of Folklife Programs' exhibition at the Renwick Gallery, "Celebrations: A World of Art and Ritual"; Bumba-Meu-Boi: A Brazilian Folk Drama, a monograph about this traditional Brazilian performance.

Archives and Education - The archives of the Office of Folklife Programs is a repository of folkloristic materials which have been generated by Office activities. These materials include recordings of Festival performances; fieldwork interviews stemming from research done in preparation of the annual Festival; and documentation of other office-sponsored publications and events, such as the film-monograph series projects and the Franklin Delano Roosevelt Centennial concert. The archives include 9,000 reels of audio tape; 2,500 audiocassettes; 4,700 rolls of black and white film; 20,000 color slides; 500,000 feet of motion picture film; 850 videotape recordings; and 220 cubic feet of files.

Inquiries are addressed regularly to the staff of the archives by scholars and others engaged in research on traditional cultures. The archives is also a resource for visiting fellows who, since 1976, have utilized the resources of the Folklife Programs archives to pursue various year-long research projects. Subjects of research have included Coal Miners and the Coal Industry, 1930-1960; Institutional Intervention in Traditional Liturgical Music; Occupational Folklife of Firefighting; Pre-Bluegrass Banjo-picking Styles; and The Use of the Harmonica in American Traditional Music.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - I. Office of American Studies: Tuition reimbursement is received from the cooperating universities, principally the George Washington University and the University of Maryland, whose graduate students avail themselves of the courses offered by the Office of American Studies. The tuition reimbursement program is designed to reimburse the Institution for the use of its facilities by the students participating in Smithsonian classes and using these funds to provide honoraria and reimbursement for the services of outside experts participating in the program (estimated expenditures of \$14,000 in FY 1986 and in FY 1987).

II. Office of Folklife Programs: Funds are provided by allotments and from concessions sales relating to the Festival of American Folklife (gross sales are normally \$30,000 to \$40,000). They support 13 full-time employees as well as related costs (estimated expenditures of \$642,000 in FY 1986 and \$655,000 in FY 1987). The reduction of \$463,000 in Special Purpose fund expenditures between FY 1985 and FY 1986 mainly results from the one-time costs of the "Aditi: A Celebration of Life" exhibition.

Restricted Funds - Funds are provided in the form of individual gifts and grants from private foundations or corporations and are used to fund specific programs at the Festival of American Folklife (estimated expenditures of \$379,000 in FY 1986 and \$214,000 in FY 1987).

Federal Grants and Contracts - These are provided by various foreign, state and local governments for support of performances and programs at the annual Festival of American Folklife. In FY 1985, funds were received to support the costs of highlighting the folklife traditions of Louisiana. Additional grants are anticipated in future years for the Festival (estimated expenditures of \$592,000 in FY 1986 and \$852,000 in FY 1987).

Planning is under way for the 20th Festival of American Folklife in 1986. Programs will include the folk cultures of Tennessee and Japan, the occupational folklife of American trial lawyers, a program on Cultural Conservation, and a 20th anniversary program honoring outstanding performers who have contributed to this event through the years.

Publications - The staff of the Office of Folklife Programs is involved in a broad range of publication projects that analyze and document folklife traditions. The Smithsonian Folklife Studies Series documents folkways still within memory in a variety of traditional cultures. This innovative Series couples book-length monographs and films to document and analyze particular traditions more fully than would be possible with the single use of either medium. This hybrid format has proved a useful and important tool for the study of cultural processes. Recent publications in this Series have included: The Ojibwa Dance Drum: Its History and Construction, a monograph written to accompany the film The Drummer; At Laskiainen, In Palo Everyone is a Finn, a film documenting a Finnish-American mid-winter festival; and The District of Columbia Fire Fighters' Project: A Case Study in Occupational Folklife, a monograph which will accompany a film on the occupational traditions of District of Columbia firefighters.

INTERNATIONAL ENVIRONMENTAL SCIENCE PROGRAM

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	11	680	-	-	-	-	-	-	-	-
FY 1986 -Base	13	728	-	-	-	-	-	-	-	-
-PL 99-177***		697								
FY 1987 Estimate	13	752	-	-	-	-	-	-	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	13	0	13
11 Personnel Compensation.....	213	3	216
12 Personnel Benefits.....	26	1	27
21 Travel.....	96	4	100
22 Transportation of Things.....	4	-	4
24 Printing & Reproduction.....	3	-	3
25 Other Services.....	265	11	276
26 Supplies & Materials.....	70	3	73
31 Equipment.....	51	2	53
Total	728	24	752

Analysis of Increase

Necessary Pay.....	4
Inflation.....	20

ABSTRACT - The International Environmental Science Program (IESP) coordinates the Institution's long-term monitoring and study of unique and significant ecosystems. Its goal is to evaluate and eventually predict the impact of human activities and natural change on selected ecosystems. The Program is a multibureau, interdisciplinary effort. Research occurs at two permanent Smithsonian sites--the Tropical Research Institute in Panama and the Environmental Research Center in Maryland--as well as temporary sites throughout the world. No program increase is requested for FY 1987. Necessary pay of \$4,000 is required for existing staff and an amount of \$20,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Smithsonian's long tradition in international research and its unparalleled collections of natural history objects qualify it to sustain scientific activities abroad. The IESP provides funds for teams of scientists to monitor natural

variations in unstressed specific environments. A 1984 report from the Office of Technology Assessment reemphasized the need: 1) to expand existing long-term monitoring programs; 2) to maintain ecosystems; and 3) to develop ways to ensure the survival of rapidly diminishing tropical forests. A 1985 report by the Agency for International Development called for the expansion of monitoring to help promote biological diversity, as being of strategic value to the United States.

The Rhode River Estuary near Edgewater, Maryland, the tropical lowland forest of Barro Colorado Island, and the Galeta Reef on the Atlantic side of the Panama Canal are the program's permanent research sites. For over ten years, scientists have developed a data base on the biological, physical and chemical components to these ecosystems. Analyses of these data have produced concepts and verifiable hypotheses on the long-term patterns in climate, and the stresses and disturbances resulting from human activity.

- Long-term studies on the primary productivity and floristic composition of abandoned fields at the Edgewater site show a 60% increase in biomass productivity, and that the suit of dominant plant species has entirely changed over the first three complete growing seasons of the study. These results are important in developing habitat restoration strategies on areas once actively utilized for agriculture.
- Monitoring sea urchin populations (Diadema) in Panama has provided essential baseline data for analysis of an epidemic that decimated Diadema populations throughout the Caribbean.
- Monitoring has also demonstrated a slow rise in sea level with substantial impact on the biota of the Atlantic Coast of Panama.
- Terrestrial research in Panama produced a soil map for Barro Colorado Island. During the very dry El Niño year of 1983, many populations of plants and animals were affected. However, detailed studies of squirrels and other non-flying mammals supported by the program showed that the El Niño dry season had little effect on their populations. Two major publications derive directly from these efforts.
- Outbreaks of defoliating insects are well known in the temperate zone (e.g., spruce budworms) but are virtually unknown in the tropics, perhaps because host-plants are so widely separated in tropical forests. However, on Barro Colorado Island, caterpillars recently attacked and defoliated the canopy tree Quararibea asterolepis. None of the other 350 species of shrubs and trees on the island were affected. Since the phenology of Quararibea has been monitored since 1979, several important questions about epidemic level outbreaks in tropical forests can be answered.

At IESP's nonpermanent sites in Aldabra, Nepal, Venezuela, Brazil and Peru, scientists with support from the host governments, are continuing their efforts to gather descriptive data that will aid in the development of verifiable hypotheses concerning genetic diversity, animal management, and natural area management. Recent accomplishments at nonpermanent sites for FY 1985 are listed below.

Aldabra - A five-week visit by an interdisciplinary team in the spring of 1985 continued their survey of benthic communities of seagrass beds on the reef flat. The quantitative sampling for this long-term project will continue for two years before analysis of the data will be attempted. Forty-six transect stations were surveyed for marine algae. Between 150 and 200 species were collected, among which were several new records. Bio-assays of about 150 algal species were done to identify the presence of unusual

natural products with a potential for therapeutic usage. A tortoise population census was carried out for comparison with surveys done in 1968-69. An unexplained adult male mortality rate was observed, and 20 specimens were retained for further study at the National Museum of Natural History.

Nepal - The Great one-horned Asian rhinoceros was studied in FY 1985 when it was discovered that these endangered pachyderms catalyze riverine forest succession on the vast grassland flood plains of Royal Chitwan National Park. Latrines used by rhinos serve as seed beds for favored forage species such as the tree Trewia nudiflora which rapidly colonize grasslands. Experimental studies reveal that seeds digested by rhinos germinate and grow faster than undigested seeds. Six rhinoceros were radio-collared to delineate use of space and ranging patterns. Scholars from Tribhuvan University undertook studies of rhino feeding habits. Vegetation mapping was instituted to track successional changes associated with human activity and flooding, and plans were developed for exclosure studies to investigate the impact of mammalian herbivory on vegetative change in grassland and riverine forest. Plans for reintroducing rhinoceros to the Bardia Reserve in the western terai were also developed. Initial transfers of Chitwan caught animals will take place in FY 1986. A parallel investigation on fire ecology of grassland funded by USAID began in March 1985 and is an important collaborative element of the entire program.

Brazil/Peru-Amazonia - Fieldwork in Amazonia was done in archeology, botany, entomology, herpetology and ichthyology. Results of these investigations added important new information on the composition and distribution of the Neotropical biota. These data are important for completion of several important publications and conservation planning. Specific highlights during this year include production of a checklist of the freshwater fishes of Peru by a National Museum of Natural History ichthyologist and a Peruvian collaborator. This checklist fills a critical need for Neotropical ichthyologists. A fish collecting expedition in coastal Brazil clearly documented for the first time the negative effects of deforestation on the native freshwater fishes. Although some impact was expected due to deforestation, the degree of devastation of the fish fauna was unexpected.

Brazil (Golden Lion Tamarin Project) - During FY 1985, success was achieved in efforts to repatriate the highly endangered primate, the golden lion tamarin, to its native habitat in Brazil. Between May and July 1984, 13 captive-born tamarins were released into the forests of the Poco das Antas Reserve in Brazil. Two females subsequently gave birth and two infants now survive that have been born in the wild to captive-born parents. Efforts will continue to observe, capture and track via radiotelemetry wild groups of tamarins in the Poco das Antas Reserve to improve understanding of their habits in the wild. Also, threatened fauna from outside the Reserve have been translocated successfully to within the Reserve. A corollary education effort is also successfully underway with local inhabitants surrounding the Reserve. During FY 1985, additional tamarins were released in Brazil within protected forests.

Venezuela - Research in FY 1985 continued on the long-term investigation of the important red howler monkey. Efforts to understand the population size, foraging strategies, and diet of these primates continued. The results of these research efforts will be of importance to zoos in properly maintaining the animals in captivity. Research on insect populations began with a selection of insects which are chosen for food by vertebrate populations. This research is important to understand the nutritional requirements of insectivores and to properly control diets in zoo settings. Ornithological research on the Venezuelan snail kite was initiated in order to compare its unique mating system to that of its close biological kin, the endangered Florida snail kite. The results of this research will be of significant use in the management of endangered species.

Evaluation of Program - IESP is involved in an ongoing process of evaluation to ensure the quality of the research. The IESP programs regularly are subject to peer reviews. In June 1984, there were site visits to Panama and Edgewater by an external panel to review and evaluate the programs there. The reviewers' recommendations were incorporated into planning future research at Panama and Edgewater. In FY 1986, an external panel will review the Venezuela program.

Over the next five years, it is anticipated that work will continue at all program sites. Selected new initiatives will be undertaken in the future to improve the Institution's capabilities in monitoring additional subtropical and tropical sites. The loss of habitat in these areas makes it essential that scientific data now be gathered on areas that may disappear and that plans be developed to conserve other areas before they are lost.

ACADEMIC AND EDUCATIONAL PROGRAMS

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	20	705	8	370	-	1,551	-	82	-	-
FY 1986 -Base	19	701	9	443	-	1,876	-	254	-	-
-PL 99-177***		738								
FY 1987 Estimate	19	828	9	539	-	2,192	-	196	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	19	-	19
11 Personnel Compensation.....	512	9	521
12 Personnel Benefits.....	65	2	67
21 Travel.....	16	30	46
23 Rent, Communications & Utilities....	4	-	4
24 Printing & Reproduction.....	48	18	66
25 Other Services.....	38	64	102
26 Supplies & Materials.....	10	4	14
31 Equipment.....	8	-	8
Total	<u>701</u>	<u>127</u>	<u>828</u>

Analysis of Increase

Necessary Pay.....	11
Inflation.....	5
Program Funds.....	111

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 and has offered its resources for learning--its collections, professional staff, libraries, laboratories and field sites--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 learning opportunities at the elementary and secondary levels provided by the Office of Fellowships and Grants, the Office of Smithsonian Symposia and Seminars, and the Office of Elementary and Secondary Education. For FY 1987, an increase of \$111,000 is requested to support the symposium, "Constitutional Roots, Rights, and Responsibilities," to be sponsored by the Office of Smithsonian Symposia and Seminars (\$100,000), and a three-part program of the Office of Elementary and Secondary Education celebrating the bicentennial

(\$11,000). Necessary pay of \$11,000 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 - I. The Office of Fellowships and Grants: With base funding of 9 workyears and \$273,000, the Office of Fellowships and Grants (OFG) manages Smithsonian fellowships, all stipend appointments, and various research support programs. Resources for administration of these programs are included here, as are costs of Institutional visiting academic appointments. Responsibility for the administration of the Special Foreign Currency Program was transferred from the Office of Fellowships and Grants to the Directorate of International Activities in October 1985.

Academic appointments from the Office of Fellowships and Grants are intended to enhance Smithsonian research and to foster communication and collaboration between the Institution and universities, museums, and research centers situated in the United States and abroad. Fellowships, internships and other visiting appointments enable the Smithsonian to further the research of junior and established scholars, to profit from an intellectual interchange with them, and to ensure full use of Smithsonian resources.

The collections and facilities of the Smithsonian, as well as the curators and scholars who use them, offer unparalleled and essential resources for specialized study. Access to historical and anthropological objects, original works of art, biological specimens, living animals and plants, and ecological systems makes the Smithsonian a unique complement to university education.

Smithsonian resources are available nationally and internationally to students and scholars. Access to these resources is facilitated by the various forms of financial support offered by the Institution. Stipends are awarded primarily with nonappropriated Trust funds, enabling research in all areas of the Institution and encouraging interdisciplinary projects which draw upon the resources of several bureaus. In FY 1985, 89 predoctoral and postdoctoral fellowships were awarded through an Institution-wide program bringing the total number of recipients since 1965 to 1,290 fellows. Of the 89 fellowships offered in FY 1985, 15 were to foreign students and scholars representing ten countries. Additional fellowships, which provide research opportunities more closely tied to bureau interests and needs, also are offered with nonappropriated Trust funds or appropriated funds designated for the bureaus. In FY 1985, with funds allotted to OFG, approximately 92 visitors came to the Institution, for periods ranging from a few days to several weeks, to work in collaboration with OFG's research staff.

In addition to these appointments for students and scholars, several awards are offered at the senior level to persons of distinction and proven accomplishment. Now in its sixth year, the Regents Fellowship Program, supported with nonappropriated Trust funds, continues to bring eminent visiting scholars to the Institution. Several senior fellowships also are awarded through bureau funding, for example, the Charles A. Lindbergh Chair of Aerospace History and the Martin Marietta Chair in Space History at the National Air and Space Museum, and the Harold P. Stern Fellowship at the Freer Gallery.

In FY 1983, the Smithsonian established the James E. Webb Fellowship, named in honor of the distinguished former administrator of the National Aeronautics and Space Administration and Regent Emeritus of the Smithsonian Institution, to promote excellence in the management of cultural and scientific not-for-profit organizations. Awards are given to persons from within and without the Institution to pursue individual interests in formal academic and work situations.

The Office of Fellowships and Grants coordinates Smithsonian academic internships by informing students and organizations of the opportunities available, distributing

applications, and administering internship stipends. OFG, in conjunction with other Smithsonian offices and bureaus, also assists with the activities of the Smithsonian's Internship Council. In FY 1985, 87 students, 28 of whom were minority students, were awarded internship stipends supported with nonappropriated Trust funds.

In addition, as part of the Institution's efforts to increase minority participation in its academic and educational programs, six fellowships were awarded to minority faculty members. In January 1983, OFG assumed responsibility for the Cooperative Education Program, which places minority students in positions throughout the Institution, with the hope that permanent placements will develop for these students. In FY 1985, five students were placed throughout the Smithsonian, and the National Museum of American History hired, in a permanent position, one of the students who completed her Ph.D. and fulfilled the Cooperative Education requirements. The Native American Program, established in 1984, was designed to promote access to Smithsonian collections by Native Americans and to encourage participation in Smithsonian work related to North American Native people. Through the Program, the Office of Fellowships and Grants has awarded appointments to 13 Native Americans to conduct independent and directed research. The Institution will continue these special efforts through internships, fellowships, and cooperative education appointments.

II. Office of Smithsonian Symposia and Seminars - With base funding of 3 workyears and \$99,000, the Office of Smithsonian Symposia and Seminars (OSSS) serves as a center for interdisciplinary studies and communications, with special emphasis on current research and its implications. The Office's wide-ranging activities include research and analytical exploration, scholarly and professional exchange, and publication of educational materials. OSSS regularly administers and organizes major symposia in the Smithsonian's international series, the continuing seminar series, and individual discussion programs, all focusing on themes of public interest. In addition, the OSSS acts as a resource center for visiting scholars and intermediate students, maintains close association with other academic institutions in the United States and abroad, and represents the Institution at national and international meetings and conferences.

Of major importance in FY 1985 was the symposium, "The Canvas of Culture," organized in connection with the other Smithsonian activities celebrating the Festival of India. This symposium brought together 50 distinguished participants from India and the United States who were concerned with the rediscovery and redefinition of the past as a means of adaptation for the future. The discussions, which treated the ways in which culture and nature can serve as resources with which to respond to current challenges, produced fresh insights into the recasting of experience and its roots as an adaptation for the future. The collected presentations will be published in book form.

"Constitutional Roots, Rights, and Responsibility," the ninth international symposium, will provide a long-term educational program in civics and representative government based on the unique history of the United States. The centerpiece of the symposium will be a structured series of meetings addressing the history of political thought, self-governance, and the duties and privileges of citizenship. This will be supplemented by ancillary activities involving graduate school and secondary level students; undergraduate research into local political customs and their origins; public action organizations (such as the League of Women Voters); roles of the media in protecting civil liberties; and participation by other nonscholarly groups. In this manner, emphasis will be given to the all-inclusive nature of American democracy. In developing final plans, the Smithsonian anticipates working with outside organizations and government officials to foster greater understanding and appreciation of the country's founding documents.

Among the singular events organized this year was "Public Enjoyment of Irish Legacies: Castles, Gardens, and Scientific Wonders." The Honorable Desmond Guinness,

founder and president of the Irish Georgian Society, and Lord Rosse, Seventh Earl of Rosse, discussed landmarks such as Birr Castle and its famous telescope, built by local craftsmen in 1842 (the world's largest at the time) for the then-astronomer, Lord Rosse. A one-day colloquium was held at the Cooper-Hewitt Museum, New York City, on October 19, 1985, on "Liberty: As Idea, Icon, and Engineering Feat," in anticipation of the centennial of the Statue of Liberty in 1986. Attention also was given to the Brooklyn Bridge, for appropriate technological context.

The Smithsonian Institution Press in December 1985 published High Technology & Human Freedom, which was based on the eighth international symposium, December 1983, with Lewis Lapham (editor of Harper's) as the editor. A second volume based on the Orwellian symposium is now being edited for publication later in 1986.

III. Office of Elementary & Secondary Education - With base funding of 7 workyears and \$329,000, the primary function of the Office of Elementary and Secondary Education (OESE) is to make Smithsonian resources for learning and teaching available to local and national school communities and other specialized audiences. Working in close cooperation with the various Smithsonian education offices, OESE is the one Smithsonian office in a position to provide pan-Institutional programming for elementary and secondary schools. OESE programs include workshops and seminars for teachers, publications and audio-visual materials for teachers and students, a summer intern program for high school students, and a Career Awareness Program for minority young people from the District of Columbia public schools. The Office also coordinates a wide range of services for disabled visitors.

OESE offers a range of programs designed to encourage the effective use of museums by schools, both locally and nationally. During FY 1985, a workshop and seminar program for teachers attracted more than 1,000 participants to 40 programs, including ten summer courses. These programs resulted in the development of curriculum units based on the Smithsonian's collections. Summer programs for teachers include an orientation series introducing participants to a variety of Smithsonian resources, as well as a series of in-depth, one-week, fully-accredited seminars on such topics as "Teaching Life Science Through Direct Observation," "Museums and Language Development," and "Teaching American Cultural History through Art." During the summer of 1985, OESE also sponsored, in cooperation with the University of Virginia, a graduate level course on "Using Museums to Teach Writing" for a national audience of school librarians, teachers and curriculum specialists. The effectiveness and popularity of these national outreach programs are demonstrated by both formal evaluations and the continued demand for these services by teachers throughout the United States.

In FY 1985, OESE continued to sponsor a series of regional workshops in communities across the United States to promote the use of museums as educational resources. Among the regions taking part in this program in FY 1985 and FY 1986 are Oak Ridge, Tennessee; Philadelphia, Pennsylvania; Waterloo, Iowa; and Jackson, Michigan. Approximately 2,000 teachers will be reached by the regional workshops in the course of an 18-month period.

In order to promote cooperation and exchange of information between the Institution and schools in the Washington metropolitan area, two publications, which inform teachers about the variety of educational opportunities available at the museums, entitled "Let's Go," and "Through Looking and Learning: The Museum Adventure," are sent to approximately 11,000 teachers. To share these same teaching concepts with a national audience, OESE distributes "ART TO ZOO," a classroom newspaper, to more than 70,000 teachers and museum education departments throughout the United States. OESE also circulates, free of charge, two slide loan packages entitled "The Museum Idea" and "Museums as Storytellers" which reach an estimated 1,500 students during each school year.

During FY 1985, OESE continued its efforts to make Smithsonian programs accessible to disabled visitors by providing interpreters at special events, lectures, and tours, as well as by providing guidance to the various Smithsonian museums which were seeking ways to provide more effective programming for retarded, hearing-impaired and blind visitors. In addition, sign language classes were given to teach approximately 75 Smithsonian educators, guards, and other employees how to communicate with hearing-impaired visitors; a simplified guidebook to the Smithsonian was produced for retarded and hearing-impaired persons; and an "outreach kit" was developed to encourage reading and writing among language-delayed students.

In a related effort, OESE serves as Smithsonian coordinator for the U.S. Department of Education's new Federal Employees Literacy Training (FELT) program. This involves recruiting FELT volunteers from among Smithsonian staff members, assigning them to local reading centers, and monitoring their progress. Fourteen volunteers have recently been recruited for the first session of this program at the Smithsonian.

EXPLANATION OF PROGRAM INCREASE - For FY 1987, an increase of \$111,000 is requested to support the symposium "Constitutional Roots, Rights, and Responsibilities," to be sponsored by the Office of Symposia and Seminars (\$100,000), and a three-part program of the Office of Elementary and Secondary Education celebrating the bicentennial of the Constitution (\$11,000).

Bicentennial of the Constitution (\$111,000) - For FY 1987, an increase of \$100,000 is requested for the Office of Symposia and Seminars to support "Constitutional Roots, Rights, and Responsibilities," a major international symposium, scheduled for May 1987, which will celebrate the 200th anniversary of the U.S. Constitution and Bill of Rights. The symposium format offers the most effective way to deal with the history of political thought and the effects of ideas concerning democracy, liberty, and self-government on the behavior of today's citizenry. Essays will focus on such questions as "Where did the authors of our founding document find their ideas about governance and law?"; "What have two hundred years of experience with the Constitution taught us about its use in the future?"; and "How can duties of citizens be learned along with their constitutional rights?." New historical work on the Scottish Enlightenment will produce a special session. These essays and ensuing discussions will form the foundation of a book on the Constitution and Bill of Rights.

In addition to other bureaus of the Smithsonian, OSSS is cooperating with the American Bar Association and an informal consortium of United States and overseas colleges and universities in planning the symposium, which is the ninth in a series that began in 1965 with the Bicentennial of the birth of James Smithson. Among other organizations being consulted are the National Archives; the U.S. Capitol Historical Society; Project 1987; the Mentor Group; Americans for Indian Opportunity; The Honorable John O. Marsh, Jr., Secretary of the Army; and staffs of the National Endowment for the Humanities, the U.S. Department of Education, and the Council for the Advancement of Citizenship. Special attention will be given to the participation of youth in the symposium as well as that of established scholars and statesmen. (A cable television network will be invited to provide live coverage of the symposium.)

For FY 1987, an increase of \$11,000 is requested for the Office of Elementary and Secondary Education to support a three-part program for the bicentennial celebration. The first component of this program would be a day-long seminar for Washington, D.C. area school teachers and administrators on effective methods for teaching the Constitution. This seminar, sponsored in conjunction with the Office of Symposia and Seminars, will involve participation by the National Archives and Record Service, the National Committee for the Bicentennial of the Constitution, the National Portrait Gallery, and the National Museum of American History, whose staff will provide the faculty for the program. Following an introductory session with a keynote address by a distinguished authority, the

audience will separate into small groups to discuss such topics as "The People Who Framed the Constitution" and "The Constitution as a Living Document." OESE estimates the total cost of this seminar to be \$3,000 (for speaker honoraria and travel, and staff overtime).

The second component of the program would be an one-hour videotape based on the seminar. This tape, produced with the help of Smithsonian's Office of Telecommunications, at an estimated cost of \$7,000, will be loaned free of charge to schools throughout the Nation to further student understanding of the history and life of the Constitution.

The third component of the program would be a special issue of the OESE publication, "ART TO ZOO," informing teachers of the myriad resources available to them in their city and county governments which would enrich their teaching of the United States constitutional form of government. Three thousand extra copies of this special issue would be printed (at an estimated cost of \$1,000) for distribution with the videotape of the seminar.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - I. Office of Fellowships and Grants: These are provided from allotments which are designated primarily for an Institution-wide program of graduate student, predoctoral, postdoctoral and senior fellowships, as well as opportunities for shorter visits from scholars and students (estimated expenditures of \$1,475,000 in FY 1986 and \$1,725,000 in FY 1987).

The Regents Fellowship Program continues to bring distinguished visiting scholars to the Institution (estimated expenditures of \$140,000 in FY 1986 and in FY 1987). The James E. Webb Fellowship promotes excellence in the management of cultural and scientific organizations (estimated expenditures of \$30,000 in FY 1986 and \$25,000 in FY 1987). Funding also is provided to cover the stipends for minority internships and faculty fellowships (estimated expenditures of \$80,000 in FY 1986 and \$90,000 in FY 1987); and fellowships for minority students pursuing graduate education (estimated expenditures of \$30,000 in FY 1986 and in FY 1987). Starting in FY 1985, funding also has been provided for the Native American Fellowship Program (estimated expenditures of \$50,000 in FY 1986 and in FY 1987); and a pilot program to support a cooperative effort with Howard University (estimated expenditures of \$25,000 in FY 1986).

An allotment supports a small portion of the administration of the Office of Fellowships and Grants' academic programs (estimated expenditures of \$118,000 in FY 1986 and \$127,000 in FY 1987).

II. Office of Smithsonian Symposia and Seminars: An allotment is provided for salary and support costs for two staff members and for partial support of the "Man and Beast II" symposium planned for FY 1986 and the "Constitutional Roots, Rights, and Responsibilities" symposium scheduled for FY 1987 (estimated expenditures of \$148,000 in FY 1986 and \$213,000 in FY 1987).

III. Office of Elementary and Secondary Education: A summer intern program, now in its eleventh year, gives 34 graduating high school students an opportunity to participate in a learning service program at the Smithsonian, working behind the scenes with curators and other museum professionals. High school students from all 50 states and the District of Columbia are eligible to apply for admission to either of two five-week sessions. Successful candidates receive free lodging and transportation to and from Washington, D.C., as well as a stipend. The program will be expanded in FY 1986 to admit six more interns (for a total of 40). In addition, a Career Awareness Program (CAP) for the District of Columbia public schools introduces minority youth to career opportunities at

the Smithsonian as part of the Institution's affirmative action effort. A total of 80 students from two District high schools participated in CAP during the 1984/85 school year, and through the District's Summer Youth Employment Program, arrangements were made for 26 of these students to work at the Smithsonian during the summer of 1985. Furthermore, after extensive evaluation of CAP, plans are being initiated to extend the Program nationally through development of a manual and curriculum package for use by teachers, students and museum educators. These materials will be designed to interest minority young people in museum careers (estimated expenditures of both programs are \$175,000 in FY 1986 and \$197,000 in FY 1987).

Restricted Funds - I. Office of Fellowships and Grants: These consist of restricted endowments, gifts and grants from individuals, foundations, organizations or corporations which specify their use for a particular project. For example, an endowment from the Walter Rathbone Bacon Scholarship supports awards and research on fauna from outside the United States (estimated expenditures of \$15,000 in FY 1986 and in FY 1987). A Rockefeller Foundation grant will support fellowships for the National Museum of African Art and the Sackler Gallery (estimated expenditures of \$60,000 in FY 1986 and \$51,000 in FY 1987).

II. Office of Smithsonian Symposia and Seminars: Funds are anticipated to partially support the Office's participation in the "Man and Beast II" symposium (estimated expenditure of \$59,000 in FY 1986) and the "Constitutional Roots, Rights, Responsibilities" symposium (estimated expenditure of \$100,000 in FY 1987).

III. Office of Elementary and Secondary Education: Another OESE program for students is "Exploring the Smithsonian," which served close to 5,800 young people in FY 1985. Supported in part by a grant from a local foundation (estimated expenditures of \$31,000 in FY 1986 and \$30,000 in FY 1987), this program provides bus transportation to bring junior high school students to the Smithsonian museums to take part in a selection of interdisciplinary lessons on curriculum-related subjects in art, history and science. OESE works with the various Smithsonian education offices to plan and maintain the program activities.

COLLECTIONS MANAGEMENT/INVENTORY PROGRAM

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds		& Contracts	
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	40	1,019	-	-	-	-	-	-	-	
FY 1986 -Base	38	1,121	-	-	-	-	-	-	-	
-PL 99-177***		1,073								
FY 1987 Estimate	38	1,145	-	-	-	-	-	-	-	

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	38	-	38
11 Personnel Compensation.....	536	2	538
12 Personnel Benefits.....	72	1	73
25 Other Services.....	434	18	452
26 Supplies & Materials.....	44	2	46
31 Equipment.....	35	1	36
Total	<u>1,121</u>	<u>24</u>	<u>1,145</u>

Analysis of Increase

Necessary Pay.....	3
Inflation.....	21

ABSTRACT - A plan for scheduling and performing inventories of the collections was developed by the Institution in September 1978. To accelerate the process, a special appropriation of \$500,000 was made to the Institution in FY 1979. Funding of the inventory program has continued through FY 1986, and has amounted to \$5.9 million. This funding has been allocated primarily to the inventory projects of the three museums with the greatest need. These museums are the National Museum of Natural History/Museum of Man (NMNH/MOM); the National Museum of American History (NMAH); and the Cooper-Hewitt Museum. In FY 1986 and FY 1987 the Institution will again direct most of the resources of this program to these three museums to allow the museums to continue the inventory process with emphasis placed primarily on updating and refining inventory data, matching it with existing collections records and reconciling differences. In FY 1986, funds are provided to the Archives of American Art to allow it to improve inventory control over the 75,000 works of art on paper held in the collections. No program increase is requested for FY 1987. Necessary pay 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 - In June 1983, the Institution completed the first baseline inventory of the collections. The inventory was an integral part of the collections management program established in 1978. The emphasis on collections management was designed to ascertain the full extent of the Institution's holdings and to ensure accountability through the maintenance of comprehensive records on the collections. Efforts to improve the collections management program, including collections inventory, have been pursued actively since the initial inventory cycle was completed.

Prior to the initial inventory, each Smithsonian museum established schedules and procedures, and delineated the information which would be required to conduct an inventory. Most Smithsonian museums (National Museum of African Art, Freer Gallery of Art, Hirshhorn Museum and Sculpture Garden, National Portrait Gallery, National Museum of American Art, and National Air and Space Museum) along with the National Zoological Park were able to complete their inventories within the five-year period outlined in the collections management plan using their base resources. The monumental size of the collections of NMNH/MOM and NMAH and the absence of any prior inventory information at the Cooper-Hewitt Museum dictated that funding be provided to supplement the base resources of these museums. This additional funding was made available through appropriations beginning in FY 1979. In FY 1986, funds were received to enable the Archives of American Art to begin a more comprehensive inventory of the 75,000 works of art on paper within its collections. Each of the museums has developed improved automated data systems to facilitate documentation of information for all phases of the collections management and inventory process.

The FY 1987 base of \$1,145,000 will enable the National Museum of Natural History/Museum of Man, the National Museum of American History, and the Cooper-Hewitt Museum to continue to maintain and refine inventory data, and will allow the Archives of American Art to pursue its inventory program. The following chart displays the base resources which are applied to collections management efforts and the portion of the FY 1986 appropriation and the FY 1987 estimate that will be allocated to the museums and the Archives, to the Office of Information Resource Management, and to the Office of the Registrar.

COLLECTIONS MANAGEMENT/INVENTORY PROGRAM

(Dollars in Thousands)

	<u>Natural History</u>	<u>American History</u>	<u>Cooper- Hewitt</u>	<u>Archives of American Art</u>	<u>Other</u>	<u>Total</u>
FY 1986 Base Resources	\$ 857	\$ 741	\$ 70	\$ 25	\$ -	\$1,693
FY 1986 /1						
Portion of \$1,121,000	<u>505</u>	<u>409</u>	<u>82</u>	<u>64</u>	<u>61</u> /2	<u>1,121</u>
TOTAL FY 1986	<u>\$1,362</u>	<u>\$1,150</u>	<u>\$ 152</u>	<u>\$ 89</u>	<u>\$ 61</u>	<u>\$2,814</u>
FY 1987 Base Resources	\$ 857	\$ 741	\$ 70	\$ 25	\$ -	\$1,693
FY 1987 Estimated						
Portion of \$1,145,000	<u>515</u>	<u>419</u>	<u>84</u>	<u>65</u>	<u>62</u> /3	<u>1,145</u>
TOTAL FY 1987	<u>\$1,372</u>	<u>\$1,160</u>	<u>\$ 154</u>	<u>\$ 90</u>	<u>\$ 62</u>	<u>\$2,838</u>

/1 FY 1986 Congressional appropriation.

/2 Funds were allocated to the Office of Information Resource Management (\$56,000) and the Office of the Registrar (\$5,000).

/3 For FY 1987; Office of Information Resource Management, (\$57,000); for Office of the Registrar, (\$5,000).

The following narrative describes the specific progress made by NMNH/MOM, NMAH, the Cooper-Hewitt Museum, the Archives of American Art and the inventory tasks before them.

National Museum of Natural History/Museum of Man

The initial base line inventory of the National Museum of Natural History/Museum of Man was conducted on three levels: the specimen level, covering individual specimens; the batch level, including medium-sized groups of related specimens; and the collection level, consisting of large assemblies of related materials. By the end of the initial phase in June 1983, the Museum had compiled specimen-level inventories for the known type, valuable, and sensitive specimens; specimen- or batch-level inventories for much of the material to be moved to the Museum Support Center; and collection-level inventories for the remaining collections. At the batch and collection levels, the number of specimens covered by each inventory record was estimated following careful sampling of each group of materials.

Since 1983, inventory efforts have focused on the reconciliation of base line inventory data with available documentation, routine maintenance, special maintenance associated with the move to the Museum Support Center, and refinement of collection level inventories containing specimens of particular scientific interest. The reconciliation of the gems and minerals collections is complete, and the reconciliation of the archeology and ethnology collections is almost complete.

The Museum recently created a new automated registration system which is now in operation in the Shipping Office and the Registrar's Office. The system is being extended to all departments as rapidly as possible. The system will enable the Museum to track loans, exchanges, and accessions more effectively. Other automated systems (such as the Collection Information File which contains data on the size, location and priority

for refinement activities for each of the Museum's collections) are being developed to improve access to and accountability for the collections. In conjunction with the Office of Information Resource Management, work also has begun on the conversion of inventory files to the new mainframe and information retrieval software.

Limited testing will be done on new technologies to accelerate the cyclical inventory process and to track objects. The Museum also will test lap-top portable computers for source entry of inventory data so that records can be automated without having to go through a paper process.

The National Museum of Natural History/Museum of Man has used the majority of funds received through the special collections management/inventory appropriation to support inventory technicians, clerical personnel, and computer usage costs. In its five-year collections management/inventory plan, the Museum has projected a department-by-department analysis of the steps that must be taken to refine inventory data while maintaining current inventory records. This plan outlines the need for additional resources for personnel and computer expenses in future years. These resources will be actively sought.

National Museum of American History

In FY 1985, the National Museum of American History continued to provide edited print-outs of base line inventory data on general collections to permit the staff to verify and refine original inventory data. Print-outs for all units, except the special collections, will be delivered in FY 1986. The National Numismatic and National Philatelic collections will receive print-outs in FY 1987. A major goal of the Museum has been to incorporate the inventory function into a more comprehensive collections information system which includes object accessioning, cataloguing, loan records, movement of collections and deaccessioning. As part of this objective, the Museum has developed an automated Registration Transaction Tracking System to permit information to be entered into the record at several points as the objects are processed by the Office of the Registrar and curatorial units. The System ultimately will enable the Museum to produce catalogue cards, accession memoranda and other collections management documents without duplication of effort.

The inventory at Silver Hill Facility remains difficult to conduct since many of the collections are stored in asbestos contaminated buildings and the removal of the asbestos is expected to require four years to complete. As the asbestos removal program continues, the staff cleans and relocates collections and records new locations. Other necessary improvements to the records will be made as the asbestos removal program schedule permits.

Cooper-Hewitt Museum

Three major tasks face the Cooper-Hewitt Museum in its future collections management/inventory activities. These tasks involve the continuous, cyclical inventory of the permanent collection; reconciliation of discrepancies revealed by matching base line inventory records with original accession records; and the refinement of automated data base records for each inventoried object.

The collections management/inventory process is conducted by four technicians assigned individually to the departments of Prints and Drawings, Textiles and Decorative Arts, and to the Registrar's Office. Each cycle of the planned cyclical reinventory procedure will take seven years. Since the bulk of the collections which came from the Cooper Union Museum were inadequately documented, particular attention is being paid to upgrading existing catalogue records and to reconciling the automated inventory entries with problematic preinventory records. This work will proceed at least through FY 1986

and FY 1987. It may be necessary to continue the work for one or two years thereafter until remaining reconciliation problems can be determined to be of such little consequence that no further effort is warranted.

Location files are being created and updated in each department. Some resources are being applied to support photographic documentation of the permanent collection and to expand the Museum's computer capability to enable it to process collections information more rapidly. In FY 1986 and FY 1987, planning will begin for the relocation of collections now stored in areas of the Museum which will be affected by the renovation of the Museum. Inventory and related collections management measures will be crucially important factors in the Museum's ability to maintain ready access to and full accountability for its collections.

Archives of American Art

From 1980 to 1982, the Archives of American Art conducted a survey of its accession records to prepare a list of works of art contained in its collections. On the basis of this survey, it is estimated that there are some 75,000 works of art on paper in those collections.

Using this preliminary information, the Archives will initiate a more comprehensive inventory of these works of art in FY 1986. During this inventory, a shelf survey will be made and the data collected will be reconciled with the original accession records. Preservation measures will be applied simultaneously to safeguard against deterioration of the works of art. Serious conservation problems also will be noted and a record established to permit formulation of plans for a conservation treatment program.

In future years, the Archives will conduct a survey of its estimated 400,000 photographs in the collections. The collection of photographs already has been screened and nitrate negatives have been removed.

MUSEUM SUPPORT CENTER

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		Funds		Grants & Contracts	
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	45	4,678	-	-	-	83	-	-	-	-
FY 1986 -Base	36	4,891	-	-	-	151	-	-	-	-
-PL 99-177***		4,680								
FY 1987 Estimate	36	6,366	-	-	-	-	-	-	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	36	-	36
11 Personnel Compensation.....	967	125	1,092
12 Personnel Benefits.....	97	9	106
21 Travel.....	12	-	12
23 Rent, Communications & Utilities....	2	-	2
24 Printing & Reproduction.....	1	-	1
25 Other Services.....	259	8	267
26 Supplies & Materials.....	295	33	328
31 Equipment.....	3,258	1,300	4,558
Total	4,891	1,475	6,366

Analysis of Increase

Necessary Pay.....	11
Inflation.....	14
Program Funds.....	1,450

ABSTRACT - The budget request for FY 1987 consists of the administrative and building management functions of the Museum Support Center (MSC), the activities associated with preparing collections for the move and their transport, and the storage equipment for the collection storage pods of the MSC. Funding for Smithsonian units which will operate in the MSC or provide services for the Support Center is contained in the appropriate sections of this budget document. These units are the Conservation Analytical Laboratory, the National Museum of American History, the Smithsonian Institution Libraries, the Office of Protection Services, the Office of Plant Services, the Office of Printing and Photographic Services and the Office of Horticulture.

For FY 1987, a total of 36 workyears and \$6.366 million is requested to support the following: the purchase of a collections storage system consisting of concrete decks and self-standing cabinets, with assorted shelves, drawers and doors (\$4.558 million); costs

for preparing collections for the move and transporting them to MSC (\$862,000); and MSC administrative and building management services (36 workyears and \$946,000). The requested funding, including increases of \$1.3 million for MSC equipment and \$150,000 for the preparation and transfer of collections to the MSC, is essential to continue the planned development and use of the MSC as a major Institutional resource for the care and preservation of National Collections and for research programs associated with those collections. For MSC administration and facilities management, necessary pay of \$11,000 is required for existing staff and an amount of \$14,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - The Museum Support Center, located in Suitland, Maryland, provides space for storage of museum collections and for conservation and other laboratory work areas, conservation training, and building maintenance and protection services. Several individual bureaus and units of the Smithsonian will make use of the Museum Support Center, including the National Museum of Natural History; the National Museum of American History; and the Conservation Analytical Laboratory, which occupies a substantial share of the laboratory wing for its conservation treatment, scientific analysis and training functions.

At the Museum Support Center, collections storage space is provided in four discrete sections (or pods) of the building. One of the pods (Pod 3) has been reserved for the storage of "wet" collections (those stored in alcohol), and a portion of another pod (Pod 4) will be used for "high-bay" storage for very large objects. The remaining storage area (Pods 1 and 2, and a portion of Pod 4), approximately five-eighths of the total storage space, will be occupied by collections stored in cabinets on three levels of storage decks.

Museum Support Center Storage Equipment - Design work for a collections storage system for the MSC began in September 1980. In consultation with the architectural/engineering team's material handling consultant and with the General Services Administration (GSA), and on their recommendation, the Institution decided to use a storage system utilizing a number of standard components assembled into a self-supporting three-level storage structure capable of holding the various kinds of shelves, drawers and screens needed to keep the collections safe from dust and insects while making them accessible for research, study and exhibition. In this first concept, the ducts and vents of the heating, ventilation and air conditioning (HVAC) system and other essential utilities were integrated with the structure of the storage system. This design was a pioneer effort, since no other such system existed for museum purposes. On the basis of information available in 1980, the three-level storage system was judged to be lighter, easier and more flexible to install, and cheaper than the alternatives. Most important, the performance specifications for the system required that it be "bug" and dust tight as well as corrosion resistant for the safety of the collections and the use of necessary fumigants.

As design work proceeded, planning for the system was divided into two phases. Phase I involved Pod 3 and the storage of "wet" collections. This was a relatively simple and straightforward storage structure which was installed under contract and accepted for occupancy in November 1984. Phase II of the planning process covered the design of the more complex system involving tight, closed cabinets for dry collections to go into Pods 1, 2, and 4. Using the performance specifications that were developed during the planning period, bids were solicited and, after receipt of competitive bids, an award for construction of this part of the storage system was made in 1984 to the lowest bidder.

After intensive efforts by the Institution, GSA, the architectural/engineering firm and the contractor extending over many months, the Institution was advised late in 1984 that the requirements for tightness could not be met by the self-supporting system and

that even if the requirements were achieved initially, excessive costs would be incurred in the future for the repeated caulking and sealing of the thousands of joints in the structure, some of which would become practically inaccessible after the structure had been assembled. Further, according to tests made by the Smithsonian's Conservation Analytical Laboratory and others, some of the paint used by producers of standard components failed to meet the contract specifications for fumigant resistance.

To overcome these shortcomings, the general contractor recommended an alternative storage system making use of two concrete decks to create three levels of storage areas within Pods 1, 2, and 4, and premanufactured (not field assembled) storage cabinets which can be properly constructed, sealed and finished in a factory under quality control measures. Since the metal rack system first considered could not be constructed to meet or maintain the required standards, the Institution and GSA concluded that continuation of the procurement under the initial concept would not be in the best interests of the Institution and that the recommended alternative would solve the cabinet enclosure and paint problem. The storage cabinets proposed to be used are the type similarly being used satisfactorily within other areas of the Institution. Under the new storage system, the Institution will receive virtually as much storage capacity as had been planned initially. Some modification of the existing pod floor slabs has been necessary to properly distribute weight loads of the new system.

There are several advantages in using the concrete deck and storage cabinet system. Constructing full decks, rather than installing self-supporting three-level racking in only portions of the pods as had been planned for the initial move, eliminates the necessity of installing additional floors and utilities some time in the future. The necessary deck space and all utilities can be completely constructed in all areas of the pods where three levels of storage are required. All heavy construction will be completed early in the project. As a result, the Institution will not have to provide physical barriers that would have been required to secure collections against theft and prevent damage to them from dust and vibration created by installation of large segments of the three-level system in the future. A further advantage is that this alternative will allow reuse at MSC of some storage cases presently being used within the Natural History building.

Although not all of the engineering work has been completed, it is anticipated that the cost of the concrete deck system will remain within the projections based on low bids received in 1983 for storage equipment for the initial move, as well as within the estimates projected for the storage equipment needed for the entire Museum Support Center. To keep within this funding framework, however, the Institution revised the order of acquisition of some of the equipment; installation of "high-bay" equipment for storage of large objects has been deferred and funds for that equipment will be sought in the FY 1988 budget request. The Institution will also reduce the number of storage cabinets it will procure under the contract and substitute instead a number of existing storage cases from the National Museum of Natural History. This substitution would not have been possible with the rack-storage structure.

The total cost of the storage system for the initial move, including "wet" storage equipment and the system with concrete decks, is estimated to be \$23.3 million. Through FY 1985, the Institution has received a total of \$13.8 million in appropriated funds and has reprogrammed \$1.6 million from other appropriated funds, producing a total of \$15.4 million. The Institution also will apply an amount of \$3.3 million of appropriated funds in FY 1986 for acquisition of additional increments of the needed cabinets for the initial move, utilizing prices established in the unit-price options contained in the contract, and which remain valid through September 1987. To acquire the remaining cabinets needed to accommodate collections to be relocated in the initial move, the Institution requests an amount of \$4.6 million in FY 1987.

The Smithsonian will seek additional funding in FY 1988 through FY 1991 to provide for the acquisition of the "high-bay" system and for additional cabinets to accommodate collections growth and to meet storage needs of museum bureaus of the Institution other than the National Museum of Natural History and the National Museum of American History. Additional funding of approximately \$16 to \$17 million, with exact costs subject to future bid solicitations, will be needed in FY 1988 through FY 1991 to make full utilization of all available storage space in the MSC.

Move of the Collections to the Museum Support Center - The move of Smithsonian collections to the Museum Support Center is unprecedented in the museum community in terms of volume, characteristics and variety of the collections, and the distance of the move. The National Museum of Natural History alone is sending millions of objects and specimens to the MSC. The entire transfer of the collections is occurring over a period of several years, with portions being moved only when appropriate storage equipment at the MSC has been installed. Using the principles and techniques of the "Critical Path Method" (CPM), a detailed plan for coordination of each phase of the move was developed. Information affecting the complex schedules has been automated and is continuously updated. Simultaneously, decisions have been made regarding the specific methods of packaging and modes of transport appropriate to the particular collections and objects involved.

Funds totaling approximately \$3.2 million have been appropriated in FY 1983 through FY 1986 to prepare the collections for relocation and to perform the move. Since FY 1983, temporary museum technicians have been preparing the collections to be moved, including cleaning and stabilizing objects; packing and moving them within the museums to staging areas and then to the MSC; and performing conservation treatment when needed.

In the summer of 1983, work began at several locations to prepare "wet" collections (those stored in alcohol) for relocation to Pod 3, which was specially designed to receive them. Following the acceptance of the "wet" storage structure in November 1984, the process of transferring these "wet" collections from Mall locations to the MSC began. This move was completed in the fall of 1985 (ahead of the projected CPM move schedule), with over 260,000 specimen lots relocated to the MSC in 200 van loads.

Preparation of "dry" collections (to be stored in Pods 1, 2 and 4) is in progress with work being done on the collections of the Departments of Anthropology, Entomology, Mineral Sciences and Vertebrate Zoology. Because of the delay in the scheduled installation of the three-level storage system, some collections have been moved to temporary storage locations at the MSC, including over 190,000 archeological objects (representing 25 percent of those collections) and 15,000 Asian ethnological objects from the Department of Anthropology; over 2,000,000 insect specimens from the Department of Entomology; and over 36,000 petrology specimens from the Department of Mineral Sciences. These and other collections are planned to be moved to their final storage locations beginning in FY 1987 following the installation of storage equipment. Most of these moves are scheduled for calendar years 1987 and 1988, with the relocation of the Department of Anthropology's collections continuing through calendar year 1989.

Because the construction of the "high-bay" storage equipment for the housing of oversized objects (such as totem poles and war canoes) has been delayed until at least FY 1988, the schedule currently projects that the move of collections to be stored in the "high-bay" space will begin in FY 1989 and take approximately two years.

An amount of \$862,000 (an increase of \$150,000 over the FY 1986 base of \$712,000) is sought in FY 1987 to meet ongoing costs associated with preparing collections for the move and with their transfer to the MSC, including the salary costs for the temporary work force engaged in cleaning, packing and moving collections.

Administration and Facility Management - With FY 1986 base funding of 36 workyears and \$921,000, the Office of the Director of the Museum Support Center is responsible for the administrative coordination of the activities of the various user and support units, and for supervision of building management functions at the MSC. This Office administers the automated data processing center used for registrarial and collections management activities, including the move to the MSC, and for the research and informational requirements of the occupants. The Office also enforces the procedures established to control and account for the flow of collections into and out of the MSC, and insures the safety of the collections against pest infestations and other hazards. Under the general supervision of the MSC Office of the Director, the facility manager is responsible for providing shipping and receiving services, moving equipment and objects, overseeing safety and security operations, and cleaning and maintaining all parts of the building. Because of the need to maintain very strict environmental standards for the care and storage of museum objects, cleanliness is a fundamental requirement in the successful operation of a collections management facility. No program increase is requested for FY 1987 for MSC administration and facility management.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - An allotment of \$750,000 was provided to purchase special laboratory equipment for the Conservation Analytical Laboratory. Approximately \$600,000 was spent through FY 1985 with the balance of \$150,000 to be spent in FY 1986.

ADMINISTRATION

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General FTP**	Amount	Special Purpose FTP**	Amount	FTP**	Amount	FTP**	Amount
FY 1985 Actual	247	11,393	171	7,151	14	1,723	-	114	-	-
FY 1986 -Base	250	12,411	186	8,388	2	970	-	111	-	-
-PL 99-177***		11,435								
FY 1987 Estimate	252	12,504	192	10,246	2	428	-	106	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	250	2	252
11 Personnel Compensation.....	7,841	-2	7,839
12 Personnel Benefits.....	1,557	7	1,564
13 Ben. to Former Emp.....	398	-	398
21 Travel.....	64	1	65
22 Transportation of Things.....	5	-	5
23 Rent, Communications & Utilities....	204	8	212
24 Printing & Reproduction.....	32	-	32
25 Other Services.....	894	39	933
26 Supplies & Materials.....	815	34	849
31 Equipment.....	601	6	607
Total	<u>12,411</u>	<u>93</u>	<u>12,504</u>

Analysis of Increase

Necessary Pay.....	141
Inflation.....	108
Program Funds.....	25
Worker's Compensations.....	192
Grade Target Reduction.....	-373

ABSTRACT - Administration includes central management, planning, oversight and review provided by the Offices of the Secretary, Under Secretary, Assistant Secretary for Administration, General Counsel and Treasurer. It also covers a wide range of specialized administrative and technical offices. Included among these are Audits and Investigations, Business Management, Congressional Liaison, Contracts, Equal Opportunity, Facilities Services (responsible for Design and Construction, Plant Services and Protection Services, all separately justified), Financial Management, Accounting, and Risk Management. Other offices comprising this grouping include Information Resource

Management, Management Analysis, Personnel Administration, Printing and Photographic Services, Programming and Budget, Special Events, Supply Services and Travel Services. The funding for the Workers' Compensation account is included here. These organization units receive both appropriated funds and nonappropriated unrestricted Trust funds for their operating support in approximate balance to the overall funding of the Institution. Some offices, however, such as Business Management, Contracts and Risk Management are funded entirely with Trust funds reflecting the nature of their work.

For FY 1987, an increase of 1 workyear and \$15,000 is needed to support onsite financial services in the Quadrangle. A further amount of 1.5 workyears and \$10,000 is required to annualize the partial year funding for 2 positions provided in FY 1986 for Quadrangle-related support in the Office of Personnel Administration. An increase of \$192,000 for workers' compensation is included in this line item as is a reduction of \$373,000 reflecting the anticipated savings from the Office of Management and Budget's requirement to reduce the number of employees in grades 11 through 15. These latter two items are discussed in the Uncontrollable Increases section of this budget. Necessary pay of \$141,000 is required for existing staff and an amount of \$108,000 is sought to compensate for the effects of inflation in nonsalary areas of expense.

PROGRAM - Within this activity grouping, the Office of the Secretary with the assistance of the Office of the Under Secretary is responsible for management and administration including policy determination, program planning, legislation, and the direction and review of performance of activities. The Office of the Assistant Secretary for Administration, including the Director of Facilities Services, is responsible for administrative and technical services and for design, construction, building operation and maintenance and protection services and for the curation of objects in the Castle Building.

The Office of Audits and Investigations is responsible for performing all internal and external auditing and the investigation of any fraud, waste, abuse or white collar criminal activity. Internal audits cover Federal programs as well as Trust-funded activities on a recurring basis. External audits involve the review of documentation in support of claims, cost proposals and cost and pricing data arising from contracts, grants and other financial agreements. The investigative function involves the examination of acts of alleged criminal activities by employees or contractors and the review of programmatic and operational weaknesses susceptible to fraud and abuse.

The Office of the General Counsel provides counseling to the Smithsonian Board of Regents, the Secretary, and the executive and program offices on legal matters involved in Smithsonian administration; coordinates and oversees the conduct of litigation and other adversarial proceedings to which the Institution is a party; reviews administration claims arising out of Smithsonian operations; and generally monitors all aspects of Smithsonian operations for legal implications.

The Office of the Treasurer has responsibility for financial management. This includes the direction of financial planning, accounting, payroll, financial reporting, administration of grants and insurance, risk management, handling of bank relations, oversight of investments and management of certain auxiliary activities. Components of the Office of the Treasurer include: Financial Management, Accounting Services, Risk Management and various business management offices, including Museum Shops, Mail Order, Product Licensing, Concessions and Parking operations.

The Office of Congressional Liaison is responsible for the development and maintenance of the Institution's relationships with the Congress; communication of policies, programs and plans to the Congress; the preparation and clearance of legislative materials and the organization of Smithsonian participation at legislative hearings; and liaison with Federal agencies and organizations having related interests.

The Contracts Office assists in obtaining Federal grants and contracts for special programs and projects and negotiates certain specialized contracts related to Trust-funded operations.

The Office of Equal Opportunity plans, coordinates and monitors a positive action program to provide equality in employment practices and program activities. Major efforts include the setting of goals and monitoring action to correct underrepresentation in employment of minorities, women and the disabled; assessing program and facility access for disabled persons; providing employee counseling and complaints resolution; developing and overseeing upward mobility, Hispanic and women's programs; and meeting community and national outreach responsibilities through exhibitions and other informative programs throughout the Institution.

The Office of Information Resource Management (OIRM) guides bureaus and offices and senior management in determining information resource management policy; ensures the integrity and security of Institutional data; directs modern computer and communications technology in support of the Smithsonian's program and management information activities; and ensures technical integration of hardware and software required to make information and computer capability widely available. OIRM also administers the Smithsonian's data processing cost center; operates computer system and data communications networks; and performs applied research supporting the Institution's use of data processing and communications technologies.

The Management Analysis Office provides staff assistance and advisory services in support of Smithsonian administrative operations. The Office performs studies of organizations, systems and procedures; prepares and distributes management issuances containing policy and instructions governing operations; and conducts the Institution's forms management program.

The Office of Personnel Administration (OPersA) provides personnel services, advice and assistance to managers and employees of the Institution. Within the laws, rules and regulations of relevant controlling agencies and within the policies of the Institution, the Office is responsible for recruitment, staffing, position classification and wage administration, performance appraisal and merit pay, employee relations and employee benefits planning, processing and communications. OPersA also provides for union/management relations, employee training and career development, employee assistance and counseling, workers' compensation and unemployment insurance processing, records and data maintenance processing, personnel policy development and personnel management evaluation.

The Office of Printing and Photographic Services is the central office for technical advice, guidance and production on photography and duplicating services to curatorial, scientific, technical and administrative staff. Photographic services include studio and onsite photography, photographic copy restoration, printing, preservation of originals under archival conditions, the development and maintenance of an automated catalogue of photographs and sales of materials to the public.

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 prepared for submission to the Office of Management and Budget (OMB) and to Congress, and the Office serves as liaison with OMB and Congress on budgetary matters. Appropriated budgets and nonappropriated Trust fund budgets are monitored to help assure that program needs are met, budgetary goals are achieved and that accountability is maintained. The Office participates in the development of the Five-Year Prospectus, advises management on matters pertaining to program planning and development and incorporates financial information in central data bases for use in management reports, budgetary planning and special analyses.

The Office of Special Events plans and arranges events associated with exhibition openings, seminars, lectures and other activities upon the request of bureaus and offices and outside groups when given the permission to use Smithsonian facilities. A monthly master calendar of special events is maintained.

The Office of Supply Services is responsible for the policy, planning and coordination of the procurement, contracting, property management, and supply programs. The Office procures supplies, materials, contractual services and equipment for research, curatorial, exhibition, administrative and other activities. It negotiates and awards contracts for facility construction, renovation, repair and equipment as well as for automated systems and auxiliary activities such as concessions. Programs are established and monitored for business with small, minority and women-owned firms. The Office also maintains all property records and performs and oversees the regular equipment inventories and boards of surveys to ensure proper accountability, utilization and security.

The Travel Services Office makes travel arrangements in the most economical and effective manner consistent with Smithsonian and Federal travel regulations. Information concerning changes in travel procedures and regulations is distributed to bureaus and offices. Requirements for the use of contract carriers and United States carriers for international travel are enforced. The Office works closely with other offices in the development and implementation of new and revised travel regulations.

Progress in Administrative Support - Major emphasis over the past year and continuing for the current and future budget years includes the supervision of the administrative and support activities to assure their responsiveness to needs and strengthening of the Institution's equal opportunity and affirmative action programs. Continued attention is being given to legal oversight of and counseling on the Smithsonian's programs and improvement of financial management, accounting, monitoring, reporting and auditing systems to assure control and accountability. A number of specific developments merit reporting in the areas of personnel, financial and procurement management, equal opportunity, management information systems and photographic services.

The establishment of an Employee Benefits Office in April 1985 has consolidated the administration of retirement, health benefit, insurance and other such programs. Extensive review of these matters is currently under way. Consolidation will facilitate civil service and trust employee communications and counseling on all aspects of benefits. Improvements in the administration of the unemployment insurance program continue to be made with resultant savings. The Performance Management Review System is being implemented. A new program for training custodial workers has been established.

Major financial management efforts in the current year include continued improvements in the areas of accounts payable, payroll, and recording and reporting the results of operations. In the area of accounts payable, the automation of a "matching system" to include the purchasing, receiving and invoice documents has contributed to more efficient and timely payment of vendors. Further development in this area and other related areas will increase internal controls and overall accountability. Efforts to improve and simplify processing the payroll are continuing. Through the use of the personal computer and the inclusion of more communications linkages, the Office of Accounting and Financial Services has been able to meet increasing financial information needs and provide "point of origin" data retrieval and processing abilities.

Completion of the implementation of the new Federal Acquisition Regulations was an important accomplishment of the Office of Supply Services. Obtaining advance procurement plans from bureaus and offices facilitated prompt procurement and contracting. An effective property management system resulted in tight controls on inventory and the use of large amounts of excess property.

Equal opportunity efforts are having success with improvements in representation of minority persons and women in professional jobs and in the upper grade levels. There has been steady improvement in program and facility accessibility for disabled persons. Efforts to hire the disabled continue. Greatly expanded opportunities for training and career development are available for minority students and scholars. The Smithsonian has developed working relationships with Washington, D.C. universities and with black colleges and universities. Many internship appointments and faculty fellowships are being made from these and other schools. The Career Awareness Program provides training and incentives to local junior high school students. In addition, there have been special actions to provide information, assistance and exhibitions to minority and women's groups and organizations. Goals of procurement from small and minority businesses were exceeded.

As the Smithsonian completed its third year of formal information resource management activities, significant technical and management changes were under way. The Institution has begun the transition from a central data processing technology to distributed data processing using microcomputers, minicomputers and a new computer mainframe, tied together by a data communications network. Since the new technology affected organization structures and staff roles, management techniques as well as technology have changed. Over the next few years, the pace of the technical and management changes will accelerate. Especially notable were results of the electronic data processing modernization effort. The Smithsonian Institution Bibliographic Information System, a turnkey system for libraries, archival units and individual bibliographies, was expanded to include additional functions, such as acquisitions, and to serve more users. Software for the information retrieval component of a new specimen collections system was selected and a high level systems design was completed as were plans for starting up the system. A new computer mainframe was installed and initial training of technical staff was begun, preparatory to implementation of production systems on the machine during FY 1986; notably the specimen collections system. Planning for an Institutional raceway for voice, data and image communications was advanced. An information center was established to assist staff in the use of information systems and computer capabilities.

In the Office of Printing and Photographic Services, the important effort to convert hazardous nitrate negatives to safety film nears completion. Improvements were made to the cold storage room for archival preservation. A research program into applied photographic preservation methods was initiated. Work continued on video disc production for inventory and research purposes. Office staff continued to be active in teaching programs both within and outside the Institution.

EXPLANATION OF PROGRAM INCREASE - Financial and Personnel Management (2.5 workyears and \$25,000) - An increase of 1 workyear and \$15,000 is requested for establishing an Accounting Service Unit in the Quadrangle to support the onsite financial needs of the International Center, the Museum of African Art, the Sackler Gallery and other activities located there. A further amount 1.5 workyears and \$10,000 is required to annualize the partial year funding for two positions approved in FY 1986 for Quadrangle-related support. (The amount of \$20,000 provided in FY 1986 for the one-time purchase of computer equipment also will be applied toward the funding of these two positions in FY 1987.)

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funding of these centralized services from both appropriated 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 for those units that are organizationally under Administration. Certain other units, receiving administrative allotments, are reflected

in the appropriate section of the budget request. For example, administrative costs for the Smithsonian Astrophysical Observatory are reflected within its nonappropriated Trust funds section. Also included are expenditures for producing, distributing and marketing photographic material and slide sets, and funds to help defray the costs of the Office of Printing and Photographic Services. A program allotment is made to the Office of Equal Opportunity to support community outreach through exhibits and publications, specifically aimed at women and minorities. Funds also are provided for the costs of the development and implementation of the personnel/payroll system which is designed to provide a consolidated information base for a wide variety of personnel, budgetary and other financial data. Special Purpose funds include gifts received through unrestricted bequests which in accordance with the Bylaws of the Board of Regents subsequently are transferred to endowment. Anticipated expenditures in the Special Purpose category include support of studies in ornithology, computer conversion costs, a computer cost center and small amounts used for legal seminars, research, furniture and property taxes. Expenditures for the computer cost center have not been recorded for FY 1986 and FY 1987 which explains the special purpose fund variance between FY 1985 and the subsequent two years.

Restricted Funds - Included in this category are endowment bequests and foundation grants for scientific research publications, general research projects and the forthcoming book, Best Addresses: A Cultural History of Washington, D.C. Apartment Buildings, to be published in FY 1987.

OFFICE OF DESIGN AND CONSTRUCTION

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTE**	Amount	FTE**	Amount
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	39	1,923	9	329	-	-	-	-	-	-
FY 1986 -Base	35	2,088	9	362	-	-	-	-	-	-
-PL 99-177***		2,009								
FY 1987 Estimate	35	2,123	9	383	-	-	-	-	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	35	-	35
11 Personnel Compensation.....	1,468	15	1,483
12 Personnel Benefits.....	184	2	186
21 Travel.....	15	1	16
23 Rent, Communications & Utilities....	24	1	25
24 Printing & Reproduction.....	10	-	10
25 Other Services.....	315	13	328
26 Supplies & Materials.....	25	1	26
31 Equipment.....	47	2	49
Total	<u>2,088</u>	<u>35</u>	<u>2,123</u>

Analysis of Increase

Necessary Pay.....	17
Inflation.....	18

ABSTRACT - The Office of Design and Construction (ODC) provides professional architectural and engineering services to the Institution in support of the development, operation, maintenance, repair and improvement of the physical plant. Services include short- and long-range planning feasibility analyses, design and engineering studies, project management and development of cost and budgetary estimates. Other services provided by ODC include contract review, preparation and supervision; general construction administration and management; interior design work and space utilization planning; and technical consulting support. No program increase is requested for FY 1987. Necessary pay of \$17,000 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 primary functions of the Office of Design and Construction are to provide planning, engineering, architectural and related administrative services for all

construction, renovation and repair projects for Smithsonian facilities. These are located primarily in the Washington metropolitan area, as well as at the Smithsonian Environmental Research Center in Maryland, the Whipple Observatory in Arizona, the Cooper-Hewitt Museum in New York and the Tropical Research Institute in Panama. ODC's staff includes electrical, mechanical, structural and civil engineers, architects and construction managers, architectural and engineering draftsmen, planners, estimators and administrative support personnel.

The major responsibility of the Office is to administer the Restoration and Renovation of Buildings (R&R) and construction programs by providing technical and professional support that addresses the facilities needs of the Institution in a cost effective manner. The Restoration and Renovation program is designed to bring an aging physical plant up to acceptable levels of safety for visitors and staff and to provide proper environmental conditions for the preservation and maintenance of the National Collections.

Staff services provided by the Office include the preparation of detailed project designs and specifications in support of future year physical plant projects and related budget estimating. In FY 1985, increased emphasis was placed on master planning for Smithsonian facilities. Master plans were initiated for the Tropical Research Institute, the Whipple Observatory, the Silver Hill facility, the Hirshhorn Museum and Sculpture Garden, and the American History and Natural History buildings. With the completion of the master plans, the Institution will be able more effectively to establish priorities to accomplish required work consistent with programmatic needs. The Office conducts architectural and engineering studies of buildings' operating systems; recommends and oversees efforts to solve functional deficiencies; reviews designs prepared by the museums' exhibits staffs to ensure compliance with safety, health, accessibility and other technical standards; prepares, reviews and supervises architectural and engineering design contracts as well as construction contracts; and performs architectural and engineering feasibility studies and analyses.

Expertise also is provided to Smithsonian managers on matters relating to planned construction and facility development or utilization. To support these functions, ODC maintains a central library for cataloguing, filing and identifying all plans, drawings and specifications related to Smithsonian buildings and properties.

In FY 1985, ODC supervised 103 construction contracts. The most prominent among these were: the ongoing exterior renovations and repairs to the Arts and Industries building including roof replacement, cleaning and pointing of the brick, refinishing of stone sills and installation of new energy efficient windows; continued renovation of the facade at the Renwick Gallery (completed in late 1985) including the replacement of all existing sandstone elements that have deteriorated from weathering and age with architectural precast concrete replicas; construction of a new Anacostia Neighborhood Museum annex which will include exhibit, curatorial and administrative spaces as well as increased exhibit production areas; and a major renovation of the basement and third floor of the American History building.

In FY 1986, efforts continue to upgrade the heating, ventilating and air-conditioning (HVAC) systems throughout the Institution's facilities, including a major upgrading of the HVAC systems in the American History and Natural History buildings. The program for the abatement and containment of asbestos in Smithsonian facilities proceeds with primary work being accomplished at the American History, American Art/Portrait Gallery and Cooper-Hewitt buildings. Also in FY 1986, fire protection improvements continue throughout the Institution with efforts directed at the American History, Natural History, Smithsonian, Arts and Industries, American Art/Portrait Gallery, Air and Space, and Renwick Gallery buildings, and at the Silver Hill facility.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by an allotment used primarily to cover salaries and some support costs (estimated expenditures of \$362,000 for FY 1986 and \$383,000 for FY 1987) as ODC provides services for Trust funded as well as federally funded projects.

OFFICE OF PROTECTION SERVICES

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTP**	Amount	FTP**	Amount
FY 1985 Actual	633	17,116	-	6	-	60	-	-	-	-
FY 1986 -Base	698	18,132	-	7	1	218	-	-	-	-
-PL 99-177***		17,365								
FY 1987 Estimate	741	19,340	-	7	1	243	-	-	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	Base FY 1986	Proposed Adjustments	Est. FY 1987
FTE Allocation.....	698	43	741
11 Personnel Compensation.....	13,270	893	14,163
12 Personnel Benefits.....	1,345	115	1,460
21 Travel.....	50	2	52
22 Transportation of Things.....	7	-	7
23 Rent, Communications & Utilities....	130	5	135
24 Printing & Reproduction.....	20	1	21
25 Other Services.....	1,965	82	2,047
26 Supplies & Materials.....	340	14	354
31 Equipment.....	1,000	96	1,096
42 Insurance Claims & Indemnities.....	5	-	5
Total	18,132	1,208	19,340

Analysis of Increase

Necessary Pay.....	244
Inflation.....	147
Program Funds.....	817

ABSTRACT - The Office of Protection Services (OPS) is responsible for the security, fire protection, safety, and health programs of the Smithsonian. For FY 1987, an increase of 21.5 workyears and \$420,000 is requested to provide security for the Quadrangle building and grounds. A further amount of 21 workyears and \$397,000 is required to annualize the partial year funding for 33 positions approved in FY 1986 for Quadrangle-related support. Necessary pay of \$244,000 is required for existing staff and an amount of \$147,000 is sought to compensate for the effects of inflation in non-salary areas of expense.

PROGRAM - The Office of Protection Services is responsible for security, fire protection, safety and health services for visitors and staff of the Smithsonian Institution. The authority of the Office to administer these programs derives from Public Law 82-206 and Public Law 88-391, which relate to the policing of Smithsonian buildings and grounds, and from Public Law 91-596, Public Law 91-616, and Executive Order 12196, which relate to occupational safety and health.

The Office of Protection Services provides a full range of protective services through the efforts of a security force and a professional and administrative staff that includes training specialists, safety specialists, industrial hygienists, fire protection engineers, alarm system specialists, investigators, and museum security specialists. The security force provides physical security 24-hours-a-day, every day of the year, at 13 major museums and art galleries in addition to other major work, research and storage facilities in the Washington, D.C. area, and at the Cooper-Hewitt Museum in New York City. The staff conducts in-depth studies of security needs, escorts shipments of valuable objects, formulates long-range plans for improved security and safety, operates a personnel security program, and installs and maintains alarms, including equipment for the new proprietary security system. The Office provides technical assistance and advisory services and administers occupational safety and health programs for the National Zoological Park, the Smithsonian Tropical Research Institute, the Smithsonian Environmental Research Center, and the Smithsonian Astrophysical Observatory. The Office is responsible for the protection of more than 5,000 Smithsonian employees, millions of visitors each year, the many facilities of the Institution, and the National Collections.

The security force monitors conditions and activities in and around the buildings, enforces museum regulations, and intervenes in case of crime, accident, or other emergency. Uniformed guards, plainclothes and K-9 officers are assigned in the galleries, on the grounds, and at entrances 24-hours-a-day, seven-days-a-week. Activities are coordinated through the use of a radio network. Security officers respond to alarm signals, conduct security and fire patrols after the museum buildings are closed to the public, investigate accidents, report fire and safety hazards, or malfunctions of mechanical and electrical equipment, and provide information to museum visitors. Security arrangements for visits by dignitaries and exhibitions of international interest must be coordinated with and supported by the State Department, the Secret Service, the U.S. Park Police, and other Federal and local agencies. Security coverage is based on the concept of posts--the areas for which security officers are responsible. A post may be one point (for example, a museum entrance) or an area whose boundaries are determined by such factors as 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 availability of electronic devices. The number of guards required to staff one post may vary from one (for a post staffed eight-hours-a-day, five-days-a-week) to five (for a post staffed 24-hours-a-day, seven-days-a-week). In recent years, OPS has concentrated on reducing the number of thefts committed in Smithsonian facilities by assigning plainclothes officers with intensified training in police methods and security practices in high crime areas, and by thoroughly investigating incidents.

The Office of Protection Services takes pride in and has gained renown in the museum community for the training of museum security officers. The training staff instructs new guards (including K-9), prepares guards for higher level officer positions, and conducts refresher courses for the force. During the past several years, the staff has trained K-9 teams from Fairfax and Loudon Counties and Falls Church, Virginia, Kanawha County, West Virginia, and the Annapolis, Maryland Police Department, as well as guards and guard supervisors from Detroit Institute of Art, Museum of New Mexico, Virginia Museum of Fine Arts, U.S. Air Force Museum, Amon Carter Museum of Art of Fort Worth, High Museum of Art in Atlanta, and National Aquarium of Baltimore. The Office assists the Smithsonian's

Office of Museum Programs by providing training in security for small museums from across the United States and hosts a large museum security conference which has developed an international audience. For the past several years, OPS has played a lead role in improving security of cultural objects.

A key part of the Institution's security program involves the conversion to an electronic security and fire alarm system completely owned and operated by the Smithsonian. The purposes of converting to a proprietary security system (SIPSS) are to gain faster response time 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; to manage and control systems maintenance; and to eliminate reliance on leased equipment, outside sources of power and related contractual services. The fire detection and security sensors that are elements of this system will be linked to eight local control rooms and to a central room that monitors all alarm activity and provides emergency back-up capability. Computer-controlled closed-circuit televisions will allow the control room operator to assess problems quickly and dispatch patrolling guards to the area of the activated sensor for appropriate action. During FY 1983, the installation of the first phase of the SIPSS was completed at the Museum Support Center in Suitland, Maryland and in FY 1984, in the Central Control Room on The Mall. By the end of 1986, the system will be expanded to all Washington, D.C., area facilities.

The construction of the Museum Support Center (MSC) and the Quadrangle has presented great demands for the design and installation of new security systems. During FY 1984, more than 350 state-of-the-art sensing devices (including 18 closed-circuit television cameras and 47 access card readers) were placed in the MSC. State-of-the-art security technology has been incorporated in the system for the Quadrangle. This system will include 500 security zones and will be controlled by the SIPSS with up to 68 closed-circuit television cameras, 102 card readers, and for the first time the new delay action locking devices permitted by the life safety code to improve security on exit doors without jeopardizing life safety.

Fire and safety programs include training in preventive techniques; reviews of construction, renovation, and exhibition installation drawings; regular fire inspections of facilities; and annual safety and industrial hygiene inspections. These measures have resulted in the development of long-range plans for installation of new and upgraded fire detection and suppression systems and for compliance with safety regulations. Fire safety presentations are made to approximately 80 percent of the Smithsonian staff each year. A safety staff works to eliminate hazards, accidents and occupational illnesses. Locations in which asbestos has been discovered are monitored carefully by industrial hygienists, and projects to remove or contain asbestos and to clean areas and objects found to be contaminated are proceeding on schedule. Employees are provided safety shoes, safety glasses and other equipment as necessary. The safety staff continues to promote safety awareness among employees by coordinating the work of safety committees in every facility and by offering several training programs.

Medical services for employees exposed to health hazards on the job or experiencing other job-related health problems are under the direction of a staff medical officer. In addition to providing first aid for on-the-job injuries to employees, the health services staff continues to develop and implement effective monitoring programs for employees exposed to hazardous conditions, writes medical standards for employees appointed to certain positions, develops a medical monitoring program for underwater diving, and develops a program of pre-employment physical examinations. Programs to counsel employees troubled by alcoholism, drug, or emotional problems are continuing as are programs to provide immunizations for employees traveling on official business, physicals for Smithsonian scientists in the underwater diving program, diagnostic tests for chronic illnesses, and certain treatments ordered by employees' private physicians.

Health units are staffed so that qualified medical personnel are available to administer first aid when museums are open to the public.

EXPLANATION OF PROGRAM INCREASE - Quadrangle Security (42.5 workyears and \$817,000)

An increase of 21.5 workyears and \$420,000 is sought in FY 1987 for 35 guard positions and a nurse to provide the necessary security and health services for the Quadrangle when it opens to the public. Twenty-nine of these positions will be filled mid-year to coincide with the scheduled public opening of the Quadrangle in the spring of 1987. (Funding for the full-year costs of these positions is anticipated in the FY 1988 budget request.) These positions are essential to provide security coverage for the visitors, staff, collections stored and displayed within the Quadrangle, and exterior buildings and grounds; and health services for staff and visitors. Of this amount, \$53,000 is requested for basic security supplies, uniforms, and equipment needed by the staff, to carry out day-to-day operations. A further amount of 21 workyears and \$397,000 is required to annualize the partial year funding for 33 positions approved in the FY 1986 budget for Quadrangle-related support.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are provided by an allotment and by reimbursements for the use of guard services at special events and lectures at Smithsonian facilities. These funds are used to purchase supplies, materials and equipment.

OFFICE OF PLANT SERVICES

(Dollars in Thousands)

Fiscal Year	APPLICATION OF FUNDS									
	FEDERAL FUNDS		UNRESTRICTED FUNDS				RESTRICTED FUNDS		FEDERAL GRANTS & CONTRACTS	
	FTE*	Amount	General		Special Purpose		FTE**	Amount	FTE**	Amount
		FTP**	Amount	FTP**	Amount	FTP**	Amount	FTP**	Amount	
FY 1985 Actual	419	30,019	7	1,087	7	87	-	7	-	-
FY 1986 -Base	451	32,340	7	1,237	2	21	-	1	-	-
-PL 99-177***		31,013								
FY 1987 Estimate	500	36,402	7	1,343	2	30	-	1	-	-

* FTE = Full-time equivalent

** FTP = Full-time permanent positions

*** Balanced Budget and Emergency Deficit Control Act of 1985

Detail of Federal Funding

	<u>Base FY 1986</u>	<u>Proposed Adjustments</u>	<u>Est. FY 1987</u>
FTE Allocation.....	451	49	500
11 Personnel Compensation.....	11,310	1,024	12,334
12 Personnel Benefits.....	1,424	131	1,555
21 Travel.....	22	1	23
22 Transportation of Things.....	2	-	2
23 Rent, Communications & Utilities....	16,924	2,570	19,494
24 Printing & Reproduction.....	12	-	12
25 Other Services.....	1,361	104	1,465
26 Supplies & Materials.....	1,008	125	1,133
31 Equipment.....	277	107	384
Total	<u>32,340</u>	<u>4,062</u>	<u>36,402</u>

Analysis of Increase

Necessary Pay.....	183
Inflation.....	112
Program Funds.....	1,202
Utilities and Rent.....	2,565

ABSTRACT - The Office of Plant Services (OPlants) operates, maintains, and repairs 14 museums and art gallery buildings including the Quadrangle, and a number of other work and collections storage areas located in the Washington metropolitan area and in New York City. OPlants provides utilities, transportation, mail and telephone services as well as exhibits renovation and other essential program services in support of research, exhibition, education and other public programs. In addition, technical services and assistance are provided to other Smithsonian units located outside the Washington metropolitan area including the Tropical Research Institute in Panama, the Cooper-Hewitt Museum in New York, the Whipple Observatory in Arizona and the Environmental Research Center in Maryland. Also included in this line item are the Office of Horticulture, South Group Buildings Management and the Quadrangle Building Management units.

For FY 1987, a total increase of 21.25 workyears and \$624,000 is requested. Of this amount, 3.25 workyears and \$114,000 is required to establish repair and maintenance services in the new Quadrangle facilities and 4 workyears and \$172,000 is requested to support the installation and perpetual maintenance of the Enid A. Haupt Garden in the Quadrangle. A final sum of 14 workyears and \$338,000 is required to fully staff the Quadrangle Building Management Division and to provide necessary supplies, services and equipment required for normal operations. A further amount of 27.5 workyears and \$578,000 is required to annualize partial-year funding for 38 positions approved in the FY 1986 budget for Quadrangle-related support in the Office of Plant Services (8 workyears and \$215,000 for 11 positions); the Office of Horticulture (1 workyear and \$20,000 for 2 positions); and the Quadrangle Building Management Division (18.5 workyears and \$343,000 for 25 positions).

Necessary pay of \$183,000 is required for existing staff and an amount of \$112,000 is sought to compensate for the effects of inflation in nonsalary areas of expense. An amount of \$2,565,000 for utilities, postage, rent and communications including amounts attributable to Quadrangle facilities is being requested and justified in the Uncontrollable Increases section of this budget.

PROGRAM - I. Office of Plant Services - With base resources of 363 workyears and \$12,827,000 (exclusive of the rent, communications and utilities budgets), the Office of Plant Services operates, maintains and repairs the Smithsonian's physical plant on or near The Mall, including over 5.1 million net usable square feet in museums and art galleries. In addition, OPlantS operates, maintains and repairs 82,000 square feet of space in the Cooper-Hewitt Museum in New York City. Services also are provided to other work and storage areas including the Museum Support Center in Suitland, Maryland, and space in leased facilities. These services include maintenance of building interiors and exteriors; all mechanical and electrical equipment (including elevators and escalators); lighting and refrigeration components; and oversight of emergency property repairs which are accomplished by service contracts. Operational responsibilities for utilities funding and management include the maintenance of large and complex heating, air conditioning, and ventilating systems, and electronic environmental control systems essential for the protection of buildings, specimens, objects, paintings and sculptures. Trade and craft assistance, including carpentry, painting, plumbing, plastering, sheet-metal and electrical work is provided to further research projects, office relocations and modifications, and exhibitions installations and other public events at all museums.

OPlantS also maintains a supply warehouse at the Smithsonian Institution Service Center where heavily used supplies and materials, purchased in bulk to obtain the most favorable price, are received, stored and distributed. Packing, crating, warehousing and moving services for museum objects and collections are also performed by OPlantS. In addition, the Office is responsible for oversight of all communications systems including the management and funding of telephone installations and services (Federal Telecommunications System Network and local calls) and for the processing of mail and monitoring of postage costs. Transportation services, including the maintenance, repair and operation of vehicles, are carried out by the Office as well.

The Computerized Preventive Maintenance System for scheduling preventive maintenance requirements continues to provide for a highly reliable and efficient physical plant operation. The preventive maintenance program schedules periodic maintenance for fire prevention, automatic lighting, guard stations, roofing systems and heating, ventilating, and air conditioning mechanical equipment in all Washington, D.C. museums and the Smithsonian Environmental Research Center near Edgewater, Maryland.

The Computerized Facilities Monitoring System continues to effectively analyze and control the operation of mechanical equipment and monitor environmental conditions in

major Smithsonian museums. This System uses nearly 1,900 sensors located on equipment components and in areas where stable temperature and humidity controls are essential. The sensors automatically alert a central control center of equipment malfunctions and of deviations from required environmental conditions. These automatic alerts have aided in avoiding costly repairs and in maintaining proper environmental conditions required by the collections.

Accomplishments in FY 1985 included providing trade and craft services (such as electrical, carpentry, plumbing, painting and machinist) in support of 53 exhibit projects for Smithsonian organizations. Some notable exhibitions among these projects were: "Life in America" at the National Museum of American History; "Views of a Vanishing Frontier" and "Maine Coastal Ecosystem Aquarium" at the National Museum of Natural History/Museum of Man; "Praise Poems" and "African Masterpieces From the Musee de l'Homme" at the National Museum of African Art; "LIFE: the Second Decade, 1946-1955" at the National Museum of American Art; "William Edward West 1788-1857, Kentucky Painter" at the National Portrait Gallery; "Anni Albers" at the Renwick Gallery; and "Jim Dine: Five Themes" at the Hirshhorn Museum and Sculpture Garden.

Additionally, in FY 1985 OPlantS was called upon to provide other essential program support services to museums and other Smithsonian organizations. These projects included office modifications to accommodate changing program needs such as converting office to exhibition space; modifications to areas to accommodate installation of scientific and other specialized equipment; and installation and maintenance of environmental control and fire detection and suppression systems and equipment.

II. Office of Horticulture - With base resources of 41 workyears and \$1,383,000, the Office of Horticulture applies the disciplines of horticulture as an educational, scientific, research, exhibition, and display activity for the Smithsonian Institution. The Office provides horticultural services to all museums, including interior and exterior landscape management from design through installation in addition to maintenance; research and development of historically styled gardens for museum grounds and special exhibitions; interior plantscapes; management of grounds around museums; and operation of a large greenhouse-nursery complex. Responsibilities of the Office also include exterior buildings and grounds pest control; snow and ice removal from sidewalks, roadways, parking lots and decks in locations on and off The Mall; and trash policing of grounds.

III. South Group Buildings Management - With base resources of 41 workyears and \$1,019,000, South Group Buildings Management is responsible for the general repair and maintenance of the Arts and Industries and Smithsonian Institution Buildings. Included in these responsibilities are cleaning; minor maintenance; labor services; relamping; craft services; shipping and receiving; special events preparation; contract coordination for maintenance, trash removal and pest control; and renovation projects.

IV. Quadrangle Building Management - With funding of 6 workyears and \$159,000 provided in FY 1986, the Quadrangle Building Management was established to provide a wide variety of support services to all organizations to be located in the new facility. These services will include shipping and receiving, custodial, minor maintenance, relamping and other services.

EXPLANATION OF PROGRAM INCREASE - For FY 1987, a total increase of 21.25 workyears and \$624,000 is requested. Of this amount, 3.25 workyears and \$114,000 is required to establish repair and maintenance services in the new Quadrangle facilities. Also, an amount of 4 workyears and \$172,000 is requested to support the installation and perpetual maintenance of the Enid A. Haupt Garden in the Quadrangle. An additional sum of 14 workyears and \$338,000 is required to fully staff the Quadrangle Building Management Division and to provide necessary supplies, services and equipment required for normal

operations. An amount of \$2,565,000 for utilities, postage, rent and communications including amounts for the Quadrangle facility is being requested and justified in the Uncontrollable Increases section of this budget.

A further amount of 27.5 workyears and \$578,000 is required to annualize partial-year funding for 38 positions approved in the FY 1986 budget for Quadrangle-related support in the Office of Plant Services (8 workyears and \$215,000 for 11 positions); the Office of Horticulture (1 workyear and \$20,000 for 2 positions); and the Quadrangle Building Management Division (18.5 workyears and \$343,000 for 25 positions).

OPlantS - Quadrangle Facilities Maintenance and Repair (11.25 workyears and \$329,000) - For FY 1987, an increase of 11.25 workyears and \$329,000 is required to provide trade and craft personnel necessary to operate, maintain and repair the complex mechanical, electrical, heating, ventilating and air conditioning (HVAC) equipment installed in the Quadrangle and to provide mail delivery, sorting and distributing services to the organizations located in the facility.

Of this total, an amount of 2.25 workyears and \$69,000 is requested to hire an electrician, a plumber and a painter. These positions will be filled in January 1987 to prepare for public opening of the Quadrangle in mid-1987. (Funding for full-year costs of these positions is anticipated in the FY 1988 budget request.) These positions are essential to ensure timely maintenance and repairs to building utilities systems including all plumbing and electrical systems installed throughout the Quadrangle facility. One workyear and \$15,000 is needed to hire a full-time permanent mail clerk to receive, sort and distribute mail to the organizations located in the Quadrangle. A sum of \$30,000 also is sought to purchase safety shoes, uniforms, hand tools, maintenance supplies, materials and service contracts to support this essential physical plant work. A further amount of 8 workyears and \$215,000 is required to annualize the partial-year funding for 11 positions approved in the FY 1986 budget for Quadrangle-related support.

Horticulture - Quadrangle Gardens (5 workyears and \$192,000) - An increase of 5 workyears and \$192,000 is requested to support the installation and perpetual maintenance of the Enid A. Haupt Garden located in the Quadrangle. This garden will encompass 4.2 acres and will require the utmost care to maintain the abundant plant types and elaborate landscapes.

The garden area will consist of three distinctly different types of gardens--the center will be in a Victorian style and will be flanked by Oriental and Persian gardens. The Victorian style garden will include elaborate parterres which require weekly edging and trimming; the Oriental and Persian gardens will consist of specimen plantings, rock work and water features. An amount of 2 workyears and \$76,000 will be required to fund gardener/arborist positions to care for the live collection of rare plants, large trees and shrubs.

An amount of 1 workyear and \$38,000 is required to provide maintenance of the interior plants located in the entrance pavilions, reception areas and museum galleries. These plants will require regular rotation, watering, feeding, trimming, and removal of damaged or dead leaves. The interior plant program will improve the esthetic appearance of the museums and galleries and will relieve the subterranean feeling engendered by the underground location of the Quadrangle complex. Interior plants are being chosen to reflect native plants of each museum's discipline--such as plants of African and Eastern origin. All plants will be rotated to and from the greenhouse-nursery complex located at the United States Soldiers' and Airmen's Home (USSAH).

With the completion of the Quadrangle, the Office of Horticulture will be responsible for providing 100,000 seasonal annuals for parterres, urns, hanging baskets;

providing tropical specimens of African and Eastern origin; and grooming plants for exhibitions in the new Quadrangle complex. An increase of \$20,000 is requested to erect four Victorian Greenhouses accepted as a gift in FY 1984. In order to support properly the Enid A. Haupt Garden, additional greenhouse space is necessary. Approval has been obtained to erect this type of building on land at USSAH. These buildings would make available 5,000 square feet of additional growing space. An amount of 1 workyear and \$38,000 is requested to provide a position that will maintain these four greenhouses and provide the necessary plants for the Enid A. Haupt Garden.

A further amount of 1 workyear and \$20,000 is required to annualize the partial-year funding for 2 positions approved in the FY 1986 budget for Quadrangle-related support.

Quadrangle - Building Management Division (32.5 workyears and \$681,000) - For FY 1987, an amount of 32.5 workyears and \$681,000 is required to fully staff the Quadrangle Building Management Division; to provide supplies, services and equipment necessary for the day-to-day support services to all organizations located in the Quadrangle; and to establish an automated system to manage personnel resources, inventory control and budget projections.

In mid-1987, the Quadrangle will open to the public. Three major inaugural exhibitions are expected to generate heavy public visitation. The third level of the building will be in full operation as early as the summer of 1986, and will house the Smithsonian Institution Traveling Exhibition Service, Resident Associate and National Associate Programs and the International Center. These organizations with their programs, lectures, classes, seminars and receptions will require constant attention from the Building Management Division during the day as well as late into the evenings seven days a week. An amount of 14 workyears and \$218,000 is requested to hire 19 new positions in FY 1987 for the Building Management staff. Also, an amount of \$110,000 is requested to purchase supplies, uniforms, safety shoes, equipment and tools to enable the staff to perform assigned tasks (\$55,000); to purchase special mobile maintenance equipment required to reach 25-foot ceiling skylights and interior windows, and loading dock equipment required to move art objects (\$45,000); and to provide training for wage employees on improvements in maintenance and custodial techniques, uses of new supplies and equipment and training of managers and office staff on automated management systems (\$10,000).

A sum of \$10,000 is requested to establish a system to automate office functions such as budget and personnel projections, personnel scheduling, inventory control, preventive maintenance and loading dock scheduling. Funds will be used to purchase personal computers and software.

A further amount of 18.5 workyears and \$343,000 is required to annualize the partial-year funding of 25 positions approved in the FY 1986 budget for Quadrangle-related support.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Unrestricted Trust funds are provided by allotments and are used primarily to cover salaries and support costs of seven full-time positions in the Office of Plant Services (estimated expenditures of \$260,000 in FY 1986 and \$298,000 in FY 1987) and to provide for the payment of the Trust fund share (40 percent) of the Smithsonian's annual costs for the use of the Federal Telecommunications System Network and for the Trust fund share of space rental costs for administrative activities located in L'Enfant Plaza (estimated expenditures of \$969,000 in FY 1986 and \$1,036,000 in FY 1987). Special Purpose funds are provided through reimbursements primarily from Trust-funded client organizations as for support services rendered. These amounts are used to purchase supplies, services, equipment and landscaping materials.

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

1985 Appropriation.....	\$8,820,000	} Equivalent in Excess Foreign Currencies
1986 Appropriation.....	\$2,485,000	
PL 99-177 (Balanced Budget & Emergency Deficit Control Act of 1985).....	\$2,378,000	
1987 Estimate.....	\$ -0-	

Since 1966, the Smithsonian Institution has maintained a program using foreign currencies which have been determined by the Treasury Department to be in excess of the normal needs of the United States. The Smithsonian Institution's Special Foreign Currency Program makes 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.

The FY 1986 appropriation will be used to continue a program of grants to United States institutions for research in those countries where excess local currencies are available and to provide the last of four contributions to the campaign to salvage the city of Moenjodaro in Pakistan. No funds are requested in FY 1987.

PROGRAM OF GRANTS FOR RESEARCH

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 (in FY 1986 Burma, Guinea, Pakistan and Poland are so designated) and 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. Smithsonian foreign currency grants strengthen the research and training activities of collaborating institutions abroad, since 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. Also, 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.

In FY 1985, grants supported the following projects of special interest:

U.S. scholars combined the multidisciplinary skills of anthropology, history, political science and economics in observing the 1984-1985 elections in India, the world's largest democracy.

Recent study of the ritual arts of the Baga of Guinea is suggesting a tentative revision of previous interpretations of Baga religious systems.

New models for the study of the molecular evolution of gravitationally contracting clouds have been developed in a collaboration between United States and Indian scientists.

United States museum specialists conducted workshops in Pakistan on conservation awareness and preventive care of collections.

Further, with emphasis on information exchange through small workshops, symposia and field conferences, the Smithsonian is encouraging international research in specialized areas. In FY 1985, for example, United States scholars received support for participation in exchanges on the subjects of American studies, women in development, environmental education, Buddhist studies, geophysics, food systems and communication structures, and economic change in South Asia.

The Importance of Multiyear Grants

Beginning in FY 1979, the Smithsonian Foreign Currency Program began a policy of multiyear funding of major programs whenever sufficient funds were available. Such funding is important because rational planning requires the advance commitment of professors' and graduate students' time as well as facilities. Multiyear grants, with annual disbursements subject to satisfactory review of progress by the advisory councils, allow participating institutions to coordinate such projects into their long-range scholarly programs, by providing some assurance of funding for the duration of the project.

Further, the Smithsonian has been able to use multiyear grants to protect successful projects from sudden termination when excess currency accounts were exhausted abruptly. This happened in Poland and Tunisia in 1976 and in Egypt in 1981. With multiyear funding over a three-year period, ten projects in Egypt were funded to reasonable conclusions and three continuing projects gained sufficient time to seek other funding sources. In FY 1985, the last year of Indian funds, several ongoing projects were multiyear-funded to ensure completion. Also, to safeguard ongoing projects in current countries, multiyear grants will be made as possible in FY 1986.

Benefits to United States Institutions

Since the inception of the program in FY 1966, Smithsonian grants have been made to 247 United States institutions in 42 states, Puerto Rico, and the District of Columbia to support more than 850 individual projects. Publications known to have resulted from program grants totaled more than 1,450 to date and more than 100 collections of biological and cultural materials acquired in the course of field work have been placed in U.S. and host country institutions.

The advantages of the program have extended to a far greater number of institutions than the 247 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 40 institutional members; the American Research Center in Egypt (ARCE) in New York City, with 27 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 630 AIIS fellows over the 18-year period from FY 1968 through FY 1985. Program grants also have supported more than 80 ARCE projects from FY 1966 through FY 1985, and since FY 1977, 85 ARCE fellows have received Smithsonian support. Nine ASOR excavations in Israel and 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 more than 80 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 priorities among them.

An annual review of a grantee's scientific progress is made by the advisory councils before another year of funding is approved. In addition, Smithsonian staff scientists and program advisory council members make onsite visits when firsthand reports are considered necessary. Smithsonian policy requires that grantees publish scientific results and that scientific collections be readily accessible to the scholarly community.

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.

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. 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 subject to the same review process as are proposals from outside institutions.

FORWARD-FUNDED RESERVE FOR THE AMERICAN INSTITUTE OF INDIAN STUDIES

Since 1967, the Smithsonian has provided annual funding through the Special Foreign Currency Program to the American Institute of Indian Studies for fellowships, research, symposia and publications and for 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.

To prevent the sudden termination of the programs of the American Institute of Indian Studies after the removal of India from the excess currency list and to provide interim funding for AIIS for a period after the end of excess currency status, appropriations provided in FY 1980 through FY 1985 allowed the establishment of a forward-funded reserve for the American Institute of Indian Studies. The reserve of \$7,170,000 equivalent in rupees was maintained intact through FY 1985. Beginning in FY 1986, with the Indian rupee removed from the excess currency list, the Smithsonian

will apply funds from the reserve towards the AIIS fellowship program and administration costs in India. Annual proposals will be examined through the Smithsonian's peer review system before each yearly increment is released from the reserve account.

INTERNATIONAL EFFORT TO SALVAGE MOENJODARO

In FY 1986, the Smithsonian will provide the fourth and final increment of the United States contribution to the international effort to salvage the city of Moenjodaro in Pakistan, bringing the total contribution to \$4 million in nonconvertible Pakistani currency. Moenjodaro, discovered in the Indus Valley in 1921, apparently was the product of the Harappan civilization which flourished over 4,500 years ago (from about 3000 B.C. to 1500 B.C.). From the standpoint of planning, sanitation and social organization, Moenjodaro anticipated developments which only blossomed several thousand years later.

The excavated ruins at Moenjodaro have been threatened since their discovery: floods of the Indus River and highly saline ground waters have caused the serious deterioration of the excavated remains. In the 1960s, the Government of Pakistan appealed to the international community for assistance in salvaging the city 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. In 1974, UNESCO agreed to lead the international fund-raising campaign. Approximately \$9,300,000 has been raised so far, mainly from governmental contributions from UNESCO member states and the Government of Pakistan. The total budget for the project is now estimated to cost over \$19 million.

The project, long in the planning stage, is under way, with a ground water control scheme now in place. The construction of the tube wells for lowering the level of the water table to preserve the remaining structures and landscaping has begun. Salt-tolerant plants will be planted for erosion control and to provide suitable protection from wind-driven sands. Work on diverting the Indus River commenced in March 1985.

FACILITIES PLANNING, RENOVATION,
RESTORATION, AND CONSTRUCTION

CONSTRUCTION AND IMPROVEMENTS
NATIONAL ZOOLOGICAL PARK

1985	Appropriation.....	\$4,851,000
1986	Appropriation.....	\$5,518,000
	PL 99-177 (Balanced Budget & Emergency Deficit Control Act of 1985).....	\$5,281,000
1987	Estimate.....	\$4,851,000

This appropriation is for use at the National Zoological Park for repairs, alterations and improvements to the plant property, and for the construction of additions to existing facilities and minor new 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. The Zoo's facilities include 163 acres in the Rock Creek Valley of Washington, D. C., and a 3,150-acre Conservation and Research Center located in Front Royal, Virginia. Construction and improvements are accomplished primarily by contract except in instances when suitable contractors cannot be located or their estimates are above acceptable cost levels in relation to proposed work. In such cases, accomplishment of the work by other means, such as the purchase of supplies, materials and equipment and the use of current staff or temporary labor, is the most economical alternative. Furthermore, occasionally it is necessary to fund other related 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.

Status of the Construction Program - The National Zoological Park 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 public" (20 U.S.C. 81). The Zoo administers two permanent facilities. Exhibition and educational functions have been centered since 1890 on 163 acres in Rock Creek Valley of Washington, D. C. Complementary animal conservation and breeding functions have been conducted since 1975 on the 3,150-acre site in Front Royal.

The National Zoo's Rock Creek facilities have been undergoing major renovations and improvements 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 and an estimate of \$118,000,000 to less than 30 projects and a current estimate of \$81,090,000. The total \$44,018,000 appropriated through FY 1986 has been spent on 27 new exhibits and support facilities. During FY 1985, a revised Master Plan was developed that incorporated changes in exhibit concepts as they have evolved during the past decade. The revised Master Plan will place the Park among the world's finest zoos.

With funds appropriated in FY 1986, the Zoo will complete the design of Phase II of the Aquatic Exhibits and will construct a 17,000 square foot hospital facility at Rock Creek. The hospital will be designed around a large operating room/surgery with adjoining recovery rooms.

For FY 1987, an amount of \$4,851,000 is requested to support projects at the two sites operated by the National Zoological Park.

--Research Facility (\$2,500,000) - With the construction of a new hospital facility at Rock Creek, the Zoo will renovate the approximately 17-year old hospital and research

building into a modern research facility. The renovation will provide the Zoo with a first rate research facility including five environmentally controlled animal holding rooms; animal support areas; research support areas and staff offices. The animal holding areas will have individual room controls for temperature, light and humidity that can mimic diurnal cycles. The animal support area will have a large, walk-in cooler for storage of perishable produce and a large well ventilated substrate storage area for dry food. The research support area will house eight environmental chambers that will have a temperature range of zero degrees centigrade to 60 degrees centigrade, humidity control, separate water supplies, floor drains, electrical hook-ups and observation ports. The renovation of the research facility is scheduled to begin in early FY 1987 with a completion date of early FY 1988.

--Entranceway and Olmsted Walk - Phase II (\$600,000) - An amount of \$600,000 is requested for the renovation and improvement of the section of Olmsted Walk from the Connecticut Avenue entrance to the hardy hoofed stock exhibit just below the Education Building. This is the second phase of a three year program which started in 1985. Planned for this phase is an activity plaza with an information kiosk adjacent to the Education Building. Areas that house the sable antelope, bongo and dorcas gazelle exhibits, which front on the walkway, will be reconfigured to increase the size of the yard and bring the exhibit edge up to Olmsted Walk. New curbing, bench niches, landscaping and drinking fountains will be added along the walk. Completion of all three phases of Olmsted Walk will provide a coordinated walkway system from Connecticut Avenue to Rock Creek, tying together all the major animal exhibits and buildings into one pleasant visitor experience.

--Renovations Repairs and Improvements: Rock Creek (\$1,400,000) - An amount of \$1,400,000 is requested to continue the program of renovation, repairs and preventive maintenance of existing facilities at Rock Creek where there are over 60 facilities of varying age, and 163 acres of land containing over 18 miles of heavily used paths and roadways. The pedestrian paths and vehicle roadways require regular maintenance in order to prevent future more costly repairs. Renovation, repairs and improvement funds also are used to complete emergency repairs to mechanical, electrical, plumbing and support systems, animal exhibits and housing; and to pay for the temporary relocation of animals during the time when repairs are being done. Safety of visitors and employees is a major consideration in the operation of a zoo and this can be assured only by the most rigorous maintenance of exhibits and other facilities.

--Renovation, Repairs and Improvements: Front Royal (\$351,000) - An amount of \$351,000 is requested to continue the program of renovation and repair of existing facilities at the Conservation and Research Center at Front Royal. The Conservation and Research Center includes 89 facilities of various types containing approximately 236,000 square feet of space, two and one-half miles of paved roads, 20 miles of jeep trails, and 30 miles of fences, all of which must be maintained. Funds also will be used for upgrading the Center's utility systems.

RESTORATION AND RENOVATION OF BUILDINGS

1985 Appropriation.....	\$13,475,000
1986 Appropriation.....	\$11,009,000
PL 99-177 (Balanced Budget & Emergency Deficit Control Act of 1985).....	\$10,536,000
1987 Estimate.....	\$12,828,000

The Restoration and Renovation of Buildings (R & R) account is used to finance repairs, alterations and improvements to Smithsonian facilities. (The repairs and renovations at the National Zoological Park are presented separately in this budget submission.)

Smithsonian facilities are comprised of over 4 million square feet of building space located in 14 museum and gallery buildings (including the Quadrangle, now under construction) 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 preservation, storage, aircraft and spacecraft display facilities, and the Museum Support Center, at Suitland, Maryland; centers for biological research, conservation and education in Panama and on the Chesapeake Bay near Edgewater, Maryland; a center for astrophysics in Cambridge, Massachusetts; and the Whipple Observatory on Mt. Hopkins in Arizona. These facilities range in age from new to 130 years old.

The Smithsonian's request of \$12,828,000 for FY 1987, reflects efforts to plan the orderly completion of a number of major initiatives begun in previous years to better the conditions of existing facilities and to provide creative solutions to future facilities' requirements. The emphasis in this budget, and in future year budgets, will be on restoring and renovating building exteriors, improving fire detection and suppression capabilities, implementing energy conservation measures, improving environmental conditions in the museums, and altering or constructing space to meet the Institution's present and future programmatic requirements. In addition, funds sought in this budget will continue a wide range of ongoing essential repair and improvement projects.

The FY 1987 request for \$12,828,000 is an increase of \$1,819,000 over the Congressionally approved FY 1986 R & R appropriation and represents the Institution's commitment to establish the necessary level of annual funding for this account in consideration of the size, diversity, age, condition and character of the Smithsonian facilities. The justification for this year's budget request follows:

1. General repairs and improvements	\$ 570,000
2. Facade, roof and terrace repairs	2,850,000
3. Fire detection and suppression systems	1,210,000
4. Access for the disabled, safety and security, and correction of hazardous conditions	630,000
5. Utility systems repairs and improvements	1,880,000
6. Other projects	<u>5,688,000</u>
TOTAL	<u>\$12,828,000</u>

GENERAL REPAIRS AND IMPROVEMENTS (\$570,000): Funds requested in this category support a wide variety of projects that do not lend themselves to discrete categorizations;

they also support minor unscheduled, but essential, repairs that cannot be anticipated specifically. Examples of projects include unforeseeable repairs or replacements of building systems or components which fail unexpectedly; modifications to create additional or more effective space for program activities; renovations of exhibition and other public spaces; and ongoing repairs to facilities and support systems.

For FY 1987, an amount of \$570,000 is requested of which \$50,000 is designated primarily for emergency repairs and \$120,000 is sought for minor repairs at off-Mall facilities such as plumbing, electrical, lighting, and floor and wall repairs. An amount of \$50,000 is required for repairs to the sidewalks and parking lots associated with the Mall buildings to eliminate hazards to the public and staff. A further sum of \$100,000 is requested for repairs and improvements to the roads serving the Smithsonian Environmental Research Center (SERC) near Edgewater, Maryland, and the Whipple Observatory near Amado, Arizona. Funds requested in FY 1987 for SERC (\$50,000) will be used to resurface the parking lot by the calf barn and pave the Visitor Center parking lot. The road improvement project at SERC will be initiated with funds received in FY 1986 (\$100,000) for resurfacing the road from the back gate to the central area, stabilizing and resurfacing the entrance road to the main intersection, enlarging the turning space at the main gate and at the intersection of Countee Wharf Road and the road to the wharf to accommodate large vehicles, and graveling the road to the wharf. Additional amounts are expected to be sought in future years to resurface and improve other roads and parking areas at this facility. Funds requested for the Whipple Observatory road improvements (\$50,000) will provide for necessary continuing repairs to the dirt road leading from the base camp to Mt. Hopkins, which is subject to continual deterioration due to heavy use by Smithsonian vehicles and extreme weather conditions. Continued funding is expected to be requested in future budgets to maintain the road. An amount of \$250,000 is requested for improvement of attic space at the American Art and Portrait Gallery Building to provide needed storage for paintings and sculpture acquired by the National Museum of American Art in recent years. The fourth floor attic space on the G Street side of the Building is presently unusable for this purpose because of ductwork occupying the floor space. The ducts will be relocated and partitioning, lighting, insulation and climate control will be provided so that the space may be used to store collections. Although future plans for this Building and the General Post Office Building will provide additional storage space, creation of this space is urgently needed to solve immediate problems of overcrowding of the collections, and is part of the long-range solution to be provided by renovation of the buildings as well.

FACADE, ROOF AND TERRACE REPAIRS (\$2,850,000): Maintaining the integrity of the exteriors of all Smithsonian buildings is critical to prevent major structural damage and deterioration due to age and weathering and to ensure a safe environment for visitors, staff and collections. Energy conservation also demands 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 ten years; and window frames and other exterior trim should be repainted every five years. Several Smithsonian buildings require large-scale renovation, and work is under way to assure that in the future adequate protection of the exteriors of these buildings can be provided through a preventive maintenance and repair program.

For FY 1987, a total of \$2,850,000 is requested to continue, complete and initiate essential roof, facade and plaza projects at three Smithsonian museums and at several buildings at the Suitland storage facility. The amount of \$2,500,000 will complete the multiyear roof and facade project at the Arts and Industries Building; \$200,000 will be used to repair the facade of the Air and Space Building; \$80,000 is required to begin replacement of the plaza at the Air and Space Building; \$40,000 will be used to continue the replacement of deteriorated stones at the Smithsonian Institution Building; and \$30,000 is required for exterior maintenance of five buildings at the Paul E. Garber storage facility in Suitland, Maryland.

Work has been completed on the renovation of the facade of the 120-year-old Renwick Gallery Building. The amount of \$5.95 million appropriated through FY 1985 provided the resources to complete this project successfully in late 1985.

The exterior renovation of the Arts and Industries Building is also proceeding well. Funds in the amount of \$2,500,000 will be required in FY 1987 in order to complete the project, assuring watertightness, energy efficiency and restoration of original architectural features. Funds of approximately \$1.25 million were appropriated in FY 1977 and FY 1978 for the first phase of exterior renovation work. These were applied toward replacing the roofs of the courts, four halls and rotunda; repairing rotunda and hall windows; replacing gutters and downspouts; repainting the most deteriorated areas; and other related repairs. With \$225,000 appropriated in FY 1980, the Institution contracted for professional architectural/engineering services to provide the necessary analysis, documentation, cost estimates, detailed drawings and specifications for the remaining work. Funds of \$8.9 million, appropriated from fiscal years 1981 through 1985, are being used to continue the exterior restoration on a quadrant-by-quadrant basis. For example, amounts provided from FY 1982 through FY 1984 were used to restore the northwest quadrant, the west facade, the southeast and northeast pavilions, the southeast quadrant and east towers. The sum of \$2.5 million appropriated in FY 1985 is being used to restore the northeast quadrant, north entry and south towers. An amount of \$1.5 million appropriated in FY 1986 will be used to restore the southeast quadrant, including demolition and restoration of the east facade of the southeast quadrant. An amount of \$2,500,000 is sought in FY 1987 to restore the southwest quadrant; this will complete the entire project. Restoration work includes the removal and replacement of existing (range, pavilion and tower) roofing, flashing and underlayment; removal of abandoned or nonoriginal elements, such as skylights, roof vents, exhaust ducts and mechanical equipment; and the repair, relocation or replacement of the roof drainage and guttering systems. Other major aspects of the project include replacement and improvements to window components (frames, sashes, glazing, painting, weather stripping and hardware) and the incorporation of an electronic security system; the provision for fire exit windows; the 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 metal). Exterior restoration is scheduled for completion in late 1987, at a total estimated cost of \$14.4 million.

For the Air and Space Building, the sum of \$200,000 is requested to begin repair of the facade, now subject to water intrusion in a number of areas. This water seepage is caused by deterioration of the caulking between the stones of the facade and requires immediate attention to avoid more extensive interior damage. The work will involve the phased replacement of the caulking and will be coordinated closely with the plaza replacement project in order to maintain public access to the Building. An amount of \$650,000 is expected to be required in future years to complete this work.

The plaza of the Air and Space Museum has deteriorated greatly since the Building's construction ten years ago. Shifting and broken pavers cause severe safety problems for visitors and staff and require continual maintenance. The Institution plans to replace the concrete pavers with granite pavers which would have an indefinite life span and require little maintenance. This solution would also be consistent with the design of the Building. Replacement of the plaza will provide an opportunity to correct defects in the waterproofing system above the structural deck over the garage. An amount of \$80,000 is requested in FY 1987 to begin design. Funding in excess of \$3.0 million is expected to be required in future years to complete this project, which will be done in phases to preserve access routes to the Museum.

An amount of \$70,000 is requested in FY 1987 for two smaller projects. The sum of \$40,000 is needed to continue the phased replacement of deteriorated stones in the facade

of the Smithsonian Institution Building; and \$30,000 is required for repairs and preservative coating on the metal roofs of Buildings 7, 10, 20, 21 and 24 at the Paul E. Garber Facility in Suitland, Maryland.

FIRE DETECTION AND SUPPRESSION SYSTEMS (\$1,210,000): The Institution is continuing to upgrade fire protection systems in all buildings to provide the highest level of safety consistent with today's standards and technology. Work 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 also installed as exhibitions are changed and as other modification projects proceed.

For FY 1987, a total of \$1,210,000 is requested to continue the implementation of fire protection master plans at the Natural History Building (\$175,000) and the American History Building (\$250,000), and to begin implementation of master plans at the Air and Space Building (\$100,000) and the Smithsonian Institution Building (\$225,000); to install sprinkler and smoke detection systems in the Arts and Industries Building (\$200,000); and to make fire protection improvements at the Renwick Gallery Building (\$50,000), at the Hirshhorn Building (\$110,000) and in the buildings of the Tropical Research Institute on Barro Colorado Island in Panama (\$100,000).

The Institution continues to place the highest priority on completion of implementation of fire protection master plans at the Natural History and American History Buildings, which together represent the largest areas with the least fire protection.

At the Natural History Building, steady progress has been made in implementing the fire protection master plan developed in FY 1979. Funds appropriated from FY 1979 through FY 1984 (\$2,075,000) have been used to complete construction on the sprinkler and smoke detection systems for the east and west wings and portions of the main building; install a master fire control panel; and provide an upgraded and interconnected fire main and riser distribution system for the Building's sprinkler systems. Construction has begun on the installation of smoke detectors and sprinklers throughout the third floor of the main building. Funds in the amount of \$500,000 appropriated in FY 1985 are being used to provide safe flammable liquid storage rooms and to separate the West Court from the main building with fire walls. An amount of \$300,000 received in FY 1986 will be used to continue projects begun in FY 1985, and to provide new fire alarm pull stations and integrate the smoke detection, sprinkler and alarm systems into the computer system in the master control room. The sum of \$175,000 requested in FY 1987 will be used to upgrade the fire rating of access from the public areas of the main building into the wings; replace electric locks on perimeter doors with failsafe locks meeting Life Safety Codes; separate the Rotunda from the rest of the Building with fire-rated doors; provide two-hour fire separation between the main building and the wings; and install fire doors and partition systems in several other locations. It is expected that \$1.6 million will be required in future years to continue the fire protection master plan work at the Natural History Building.

The fire protection master plan for the American History Building outlines phased improvements similar to those under way or planned for the Natural History Building, including upgrading and/or adding sprinkler and detection systems; upgrading the existing emergency power supply and distribution systems; upgrading the fire pumps; installing a new fire alarm system; and undertaking architectural modifications to improve the efficiency of fire zones and exit capabilities. With funds of \$1.265 million appropriated in FY 1980 through FY 1984, the fire protection master plan was completed; fire wall separations were designed for the first floor and installed on the west side; a new ten-inch water main from the street to the Building and sprinkler risers throughout the Building were designed and installed; a master alarm control panel and electrical trunk lines for smoke detection systems and sprinkler annunciation alarms were designed and installed;

and additional automatic sprinkler and smoke detection systems are being installed throughout two-thirds of the basement level. Funds appropriated in FY 1985 (\$200,000) and in FY 1986 (\$300,000) will be used to install fire protection systems on the fourth floor, including installation of sprinkler and smoke detection systems and fire pull stations; removal of existing heat detectors; and installation of an emergency generator. The amount of \$250,000 requested in FY 1987 will be used to install sprinkler and smoke detection systems and fire pull stations in the central part of the Building. It is expected that an amount of \$2.0 million will be required in future years to continue implementation of the fire protection master plan at the American History Building.

Over the past several years, some sprinklers and smoke detection systems have been installed in the Air and Space Building in areas considered most vulnerable to fire. In order that a systematic and comprehensive approach be taken, a fire protection master plan will be completed with \$100,000 received in FY 1986. An amount of \$100,000 is requested in FY 1987 to begin implementation of the plan, to include replacement of the fire alarm control panel, installation of smoke detectors on the third floor administrative areas and in the galleries, and installation of a fire bell system. A further amount of \$700,000 is expected to be required in future years to implement other improvements identified in the master plan.

At the Smithsonian Institution Building, funds appropriated from FY 1983 through FY 1985 have been used to design and install smoke detection systems and are being used to install sprinkler systems in the basement and fire-rated partitions throughout the Building. A fire protection master plan was developed in 1985, and funds appropriated in FY 1986 will be used to make further improvements to fire detection and suppression capabilities, including upgrading hardware on emergency door exits and installing sprinkler systems in the center section's attic. The amount of \$225,000 requested in FY 1987 will be used to continue improvements, including installation of fire-rated self-closing doors and sprinklers on the first floor and basement levels and in the North and South Towers; and installation of smoke detection in mechanical rooms, basement and fourth floor corridors and in the South Tower. An additional amount of \$725,000 is expected to be required in future years to complete work in this Building.

With funds of \$225,000 appropriated through FY 1985, fire protection improvements were made at the Arts and Industries Building, including installation of smoke detection systems in the exhibit halls and pavilions, and Halon systems are being installed in the Computer Center. The amount of \$100,000 received in FY 1986 will be used to update the fire protection master plan to include space use changes which will be recommended by a space utilization study now under way. A sum of \$200,000 is requested in FY 1987 to extend fire protection systems to the remaining unprotected areas of the Building and to correct other life safety deficiencies, such as improving the fire rating of walls, replacing doors with fire-rated doors, providing fire-rated enclosures for electrical and mechanical equipment rooms, and upgrading the fire alarm bells and fire pull stations. This work will be done in conjunction with other space modifications anticipated in the Building. It is expected that an amount of \$2.0 million will be required in future years to continue fire protection improvements in the Building.

An amount of \$260,000 is requested in FY 1987 for three additional fire protection projects. For the Renwick Gallery Building, \$50,000 is requested to install sprinklers on the first floor of the Building as recommended in a fire protection and security improvements study conducted in 1985; the sum of \$110,000 is requested to extend the sprinkler system at the Hirshhorn Building to two large basement mechanical rooms; and \$100,000 is requested to provide sprinkler systems in all buildings on Barro Colorado Island at the Tropical Research Institute in Panama.

ACCESS FOR THE DISABLED, SAFETY AND SECURITY, AND CORRECTION OF HAZARDOUS CONDITIONS (\$630,000): The Institution continues to place emphasis on correcting facility conditions to improve the security of the National Collections, promote improved environmental conditions for the health and safety of visitors and staff, and provide better access for disabled persons to Smithsonian buildings.

For FY 1987, a total of \$630,000 is sought for four projects. To correct hazardous conditions, an amount of \$400,000 is required to continue asbestos removal in various Smithsonian buildings. In order to address safety problems, \$100,000 is needed for installation of safety guard rails at the Natural History Building; \$100,000 is required to replace the floor grates at the entrances of the Air and Space Building; and \$30,000 is needed to replace emergency doors, also at the Air and Space Building.

Major attention will continue to be placed on the containment or removal of asbestos materials located in various Smithsonian facilities. Asbestos has been identified in areas of the American Art and Portrait Gallery Building, the American History Building, the Natural History Building, and in a number of buildings at the Suitland storage facility. Additional areas contain asbestos, primarily pipe and duct insulation in most other buildings in Washington, and construction materials at several locations at STRI. Funds of \$1.55 million appropriated through FY 1985 were applied toward the containment and removal of asbestos in the attics, mechanical equipment rooms, skylight areas and exhibit halls of the American Art and Portrait Gallery Building, in the carpentry shop in the Natural History Building, and in the television studio and other basement areas in the American History Building. Funds of \$500,000 received in FY 1986 will be used to continue removal of sprayed asbestos insulation and encapsulation of contaminated ducts in mechanical equipment rooms in the American History Building and in Building 19 at the Suitland facility. For FY 1987, \$400,000 is requested to continue removal and encapsulation of asbestos insulation at several locations, including Buildings 4, 5, 7, 17, 25 and 26 at the Suitland facility and removal of boiler and pipe insulation in the basement of the Cooper-Hewitt Museum. Additional funds will be required in future years to continue the asbestos correction program.

The north and south entrances to the Natural History Building were modified in FY 1980 to improve access for the disabled and emergency exit capabilities. With funds of \$200,000 appropriated in FY 1985, Mall entrance gate repairs were completed and the entrance to the Learning Center will be modified. Funds of \$200,000 appropriated in FY 1986 will be used to design and install stair and ramp railings at the north and south entrances and design safety guard rails at the south portico and monumental stair. In FY 1987, \$100,000 is requested to begin fabrication and installation of the safety guard rails at the south portico. It is expected that an amount of \$200,000 will be required to complete installation of the south portico guard rails.

The amount of \$130,000 is requested for two safety projects at the Air and Space Building. The sum of \$100,000 is needed to replace the floor grates at the north and south entrances to the Building. The Pedigrid system installed during construction of the Building is primarily for removal of excess dirt from the shoes of people entering the museum. Despite continual maintenance, however, the structural support for the system has deteriorated beyond repair and the grates now present a safety hazard, with persons in high-heeled shoes particularly vulnerable. The system will be replaced by a new system of grates which will require less maintenance while providing safe access to the Building. In addition, the sum of \$30,000 is needed to replace exterior emergency doors throughout the Building, because they have buckled from the natural movement of the stone facade to which they are attached. Many of the doors have now jammed to the point where they will not open, posing a serious safety problem in the case of fire or other emergency. The metal doors and frames leading from the public galleries will be replaced with new metal doors to be attached to the structure of the Building to avoid recurrence of this problem. It is expected that an additional amount of \$30,000 will be required to complete this project.

UTILITY SYSTEMS REPAIRS AND IMPROVEMENTS (\$1,880,000): 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 as described in the Uncontrollable Increases Section of this budget request. The most significant energy savings will be realized by applying substantial resources 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. Prior to 1972, 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 museum environmental requirements in an energy efficient manner.

Comprehensive HVAC studies and energy audits have been conducted for most of the buildings in order to assist in the planning of future improvements. The scope of the HVAC studies included field investigations of age, condition and performance of existing equipment, controls and current operating conditions; reviews of existing drawings, specifications, operating manuals and hygrothermograph 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 are providing a basis for determining redesign or replacement needs of existing HVAC systems; for development of construction cost estimates or revision of previous cost estimates; and for establishment of priorities for the repair, replacement or modification of such equipment components 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 are being performed to investigate all factors relating to energy use, such as power-consuming equipment and building conditions (doors, windows, insulation, floors and partitions). Current energy consumption and costs are being evaluated; energy conservation opportunities are being identified; projected savings are being calculated; and plans are being developed to carry out recommended energy conservation measures.

For FY 1987, a total of \$1,880,000 is requested for utility systems repairs and improvements. A large portion of this request, \$975,000 is designated for comprehensive projects to upgrade heating, ventilating and air conditioning systems at the American History Building (\$800,000) and the Natural History Building (\$175,000). To implement recommendations resulting from an energy conservation study, \$200,000 is required to replace windows at the Cooper-Hewitt Museum. An amount of \$160,000 is sought to continue installation of a network system that will facilitate computer and other communications between the buildings on The Mall. The sum of \$475,000 is required to begin the replacement of electrical transformers containing the dangerous chemicals known as PCBs, as now required by the Environmental Protection Agency. A further amount of \$70,000 is required for two utility improvement projects: \$30,000 is needed to replace the cooling tower at the Renwick Gallery Building, and \$40,000 is needed to upgrade the sewer system at the Galeta site of the Tropical Research Institute.

At the American History Building, a comprehensive HVAC study initiated with \$100,000 appropriated in FY 1981 was completed in 1982. Difficulty in maintaining the desired environmental conditions is due, in part, to the age and construction of the

Building and to the deteriorating condition of the heating, ventilating, air conditioning and refrigeration equipment and controls. The study findings indicate that upgrading the mechanical system is necessary to bring the system up to acceptable museum standards of operating efficiency and reliability. Other related projects recommended in the study include caulking and weather stripping windows and doors; shading and sunscreening windows; ceiling and wall improvements; window replacements; and installation of a central control and monitoring system. Funds of \$1.285 million appropriated between FY 1981 and FY 1984 were used to replace 12 deteriorated air handling units and a cooling tower. An amount of \$1.8 million appropriated in FY 1985 is being used to prepare drawings and specifications and to begin implementation of the first phase of HVAC renovation based on the study findings and an amount of \$1.0 million appropriated in FY 1986 will be used to continue renovating the HVAC system and replacing windows. The amount of \$800,000 is sought in FY 1987 to continue this work. It is anticipated that an additional \$7.8 million will be required to complete the project.

The Natural History Building houses 100 million specimens in reference collections and also has a wide array of public exhibits that attract millions of visitors annually. The physical limitations of the Building, and the age, type and deteriorating conditions of the HVAC systems, refrigeration equipment and controls make it impossible to maintain the environment required for the preservation of the Museum's collections. In April 1983, an environmental control and energy conservation study was completed. The study findings suggest that air cooling units and central return air and exhaust fan systems be replaced with a centralized air system to be located in new penthouses over the east and west wings for energy efficiency, cost effectiveness and system reliability. Other improvements recommended include wall vapor barriers; roof insulation; replacement of single-glazed windows with double-glazed windows; entrance and exit door modifications; air locks on loading docks; centralization of laboratories with new exhaust systems; new air conditioning units for the Rotunda and attics; cabinet shop dust collection systems; West Court utility systems improvements; automatic temperature control system improvements; replacement of chillers; and a central control and monitoring system. The total cost of these recommendations is estimated to be \$54.5 million. These recommendations are being evaluated and reconciled to ensure consistency with program objectives, and an amount of \$235,000 received in FY 1986 will be used to begin preparation of design and specifications for this work. The sum of \$175,000 is requested in FY 1987 to continue this design and evaluation process.

A major requirement identified in an energy conservation study for the Cooper-Hewitt Museum is to replace the Carnegie Mansion's deteriorated windows and frames. The wood sashes and frames will be replaced and the windows glazed with insulating glass incorporating factory-bonded ultraviolet film to protect the collections from harmful light. The Mansion is a landmark site and the new windows will duplicate the existing design. The amount of \$300,000 appropriated in FY 1985 is being used to begin this project with replacement of windows on the third and fourth floors, and \$100,000 received in FY 1986 will be used to continue replacement of windows on the ground floor and basement. The sum of \$200,000 is requested in FY 1987 to begin replacement of the windows on the second floor and it is expected that \$550,000 will be required in future years to complete the first and second floors.

The Institution has established a coordinated program to apply office automation advances in all of its facilities and to provide access to data base management systems. The number of users of terminals and office automation equipment is expected to grow at the rate of 100-200 users per year. (Funding for office automation equipment is sought in the Salaries and Expenses portion of this budget request.) Presently, a large number of devices are in use which would benefit from interconnection, thereby increasing efficiency and effectiveness. These include word and data processing terminals, personal computers and telecommunications equipment. A computer-based research system is operating which has over 50 connections, and a computer-based security and fire protection system is being installed in Washington, D. C. area facilities.

In the next ten years, additional computer systems and electronic services will be needed including sensing systems for energy management; an expanded telephone system; telexes and facsimile devices; cabling for computer automation terminals and printers; and video systems for exhibits and education. The cost and management problems associated with separately installing these electronic services in each building, coupled with the requirement that most services link buildings on The Mall, led to coordinated planning efforts among the various offices responsible for each system. The result of this planning was a decision to install a common communications pathway system or master raceway system in the Mall area. Plans call for installation to begin in FY 1986 of a raceway system within and between eight buildings in the Mall area which will accommodate future electronic requirements. It will be a single, in-ground, multipurpose conduit system capable of housing wires and cables for all electronic services within and between the Smithsonian, Arts and Industries, Freer Gallery, Hirshhorn, Air and Space, Natural History, American History, and American Art and Portrait Gallery Buildings. Funds of \$250,000 appropriated in FY 1986 will be used to initiate the first construction phase which consists of interconnecting the Mall buildings using four-inch conduits encased in concrete. The amount of \$160,000 requested in FY 1987 is required to complete the interconnection. An additional amount of \$6.4 million is expected to be sought in future years to continue extension of the raceway into each building and branching the system through floors, walls and ceilings to work stations, offices or exhibit areas.

A July 1985 regulation issued by the Environmental Protection Agency requires the replacement of all high-voltage electrical transformers which contain cancer-causing chemicals known as PCBs by October 1990. Polychlorinated biphenyls, or PCBs, are particularly dangerous if they volatilize and are converted into dioxin and other highly toxic compounds, which could occur in an electrical fire in a high-voltage vault. Both long-term contamination of museum objects as well as extreme harm to humans could result. PCBs have been shown to cause cancer from contact with the liquid form as well. The Institution has 57 of these transformers in various buildings, and is evaluating each transformer to determine the fastest and most cost effective method for eliminating this hazard to visitors, staff and collections. Options that will be considered include replacement of each PCB transformer or draining and flushing of the PCB liquid from existing transformers and substituting a liquid that is not harmful. In FY 1987, \$475,000 is requested to begin implementation of this project. It is expected that an additional \$3.1 million may be required to complete this work.

The amount of \$70,000 is requested for two utility improvement projects. The sum of \$30,000 is required to replace the cooling tower at the Renwick Gallery, which has deteriorated beyond reasonable repair. An amount of \$40,000 is needed for construction of a sewer system at the Tropical Research Institute Galeta Point site. This research station, located on grounds controlled by the United States Navy, currently does not have a sewer or septic system. Sanitary waste is dumped directly into the ocean, presenting a health hazard for the scientists working on Galeta reef, as well as causing damage to the ecology they are studying.

OTHER PROJECTS (\$5,688,000): 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 exhibitions. For FY 1987, a total of \$5.688 million is sought for the following projects:

(\$000s)

<u>FACILITY</u>	<u>PROJECT DESCRIPTION</u>	<u>AMOUNT</u>
American History Building	Relocation of space/functions	\$ 400
American History Building	Mezzanines/exhibit halls	103
Natural History Building	Libraries space modifications	215
Arts and Industries Building	Relocation of space/functions	200
Arts and Industries Building	Space improvements	300
Arts and Industries Building	Computer relocation	300
Freer Gallery Building	Underground expansion	2,500
Hirshhorn Building	Master plan	125
Smithsonian Tropical Research Institute	BCI dining/conference facility	665
Smithsonian Tropical Research Institute	Naos Island dormitory	415
Smithsonian Tropical Research Institute	Gamboa dormitory	220
Whipple Observatory	Ridge dormitory design	45
Miscellaneous	Advanced planning and design	<u>200</u>
TOTAL		<u>\$5,688</u>

-- American History Building - (\$503,000)

Beginning in FY 1985, a major renovation of the HVAC systems will be under way at the American History Building, along with extensive work on fire protection, asbestos removal and master raceway system projects. As much as possible, construction will be coordinated so that all work required in a specific segment of the Building is done concurrently, to minimize disruption to Museum programs and activities and to achieve cost savings by combining similar requirements into larger contracts. In order to accomplish this work, however, major relocations of staff and collections will be required within the Building. The first phase of a master implementation study by an architectural/engineering firm is expected to be completed by the end of spring 1986. This study will determine the sequence of areas to be addressed within the Building to accomplish multiple projects and will outline implementation of the first segment of work. An amount of \$400,000 is requested in FY 1987 to make modifications necessary to accommodate dislocated staff and collections in temporary staging areas. It is anticipated that an additional \$400,000 will be required in future years to support this project.

The long-range exhibit reorganization plan for the National Museum of American History calls for construction of a mezzanine system in various galleries on the first through third floors of the Building. The mezzanine will create space for study galleries in key exhibitions, which will permit greater individual interaction by the public with museum artifacts not normally on exhibit because of lack of space. For FY 1987, the amount of \$103,000 is requested to begin design, fabrication and construction of the basic steel and concrete galleries, necessary stairs and railings which will be incorporated into specific exhibit areas currently being designed by the Museum. The first exhibition to include the gallery concept is planned to celebrate the Bicentennial of the Constitution and will open in 1987 on the east side of the third floor. This

exhibition is being designed with a permanent core to occupy present space with mezzanine added, with shorter term interpretive and study exhibits in the surrounding areas. The amount of \$1.4 million is expected to be required in future years to continue installation of mezzanines in concert with the long-range Exhibit Hall renovation program.

--Natural History Building - Libraries - Space Modifications - (\$215,000)

With funds of \$200,000 appropriated in FY 1980, the first renovation phase was completed for space modifications of the Smithsonian Institution Libraries located in the Natural History Building. Reader services areas are being renovated with funds of \$165,000 appropriated in FY 1984, and \$230,000 appropriated in FY 1985 is being used to modify the central library processing areas including central reference, binding, gifts and exchange, and shipping and receiving. Funds of \$200,000 received in FY 1986 will be used to complete the renovation of the Natural History library branch, including the purchase and installation of a compact library shelving system, and space modifications for the administrative, cataloguing and program office areas in the northeast section of the library. The amount of \$215,000 is sought in FY 1987 to complete the final phase of this project which includes renovation of the library's administrative office and public access areas, including upgrading of HVAC and electrical systems and reorganization of space for more efficient utilization.

-- Arts and Industries Building - (\$800,000)

At the Arts and Industries Building, a major renovation of the facade and roof has been under way since 1982. An amount of \$200,000 is requested in FY 1987 to construct temporary work areas to accommodate functions and activities presently located in the Building which must be relocated within the building or to other buildings during the final phase of the roof and facade work. Major activities expected to be relocated in FY 1987 include the Smithsonian Magazine offices, administrative staff of the Office of Information Resource Management, the Associates classrooms and Smithsonian training areas.

A comprehensive space study of the Arts and Industries Building is currently being conducted to evaluate existing space use and investigate future needs. In addition to recommending space improvements, the study is focusing on activities located in the Mall area that could be relocated to the Arts and Industries Building. An amount of \$300,000 will be used in FY 1986 to begin the design of the renovations for upgrading the HVAC system to provide a more acceptable museum environment and greater energy efficiency, as well as modifications to the administrative and exhibit spaces of the Building. The sum of \$300,000 is requested in FY 1987 to continue the design requirements. It is expected that an additional \$13.7 million will be required in future years for interior renovations, with a further amount of \$10.5 million required for implementation of HVAC improvements.

One key to the effective utilization of the space in the Arts and Industries Building is the relocation of the central computer facility to another building. This will free space in the Building to consolidate central administrative functions now scattered in various locations. The Institution is currently studying alternate locations for the computer facility, which will require about 6,600 square feet for the technical center and office space for technical operations staff. The amount of \$300,000 is requested in FY 1987 to begin construction for the relocation of equipment to a modern, safe, secure and environmentally controlled facility. It is expected that an additional \$300,000 will be required to complete construction and fund relocation of equipment.

-- Freer Gallery Building - (\$2,500,000)

The art treasures of the Freer Gallery, conservatively valued well in excess of \$1 billion, are at risk in overcrowded storage facilities built 65 years ago when Charles

Lang Freer gave his collection to the Nation and the building to house it. While objects have not been acquired at a rapid rate, the acquisition of a small number of master works each year has brought the Gallery to its present total of over 26,000 pieces. Only four percent of the collection is exhibited at any one time. The remaining 96 percent must be stored and preserved in a manner appropriate for the treasures of a nation. Yet, these treasures are currently stored so closely together that any transfer of objects threatens damage to neighboring objects. Textile objects must be folded to fit the space available, which can cause irreparable damage to fibers over a prolonged period. Aware of the growing problem for the past three decades, the Freer has been exploring various solutions for acquiring additional space to improve the storage conditions of its collection.

A number of support activities of the Freer Gallery (administration, curatorial, cabinet shop, library, registration and photographic laboratory) will be relocated to the Sackler Gallery building as soon as that facility has been completed. Relocation of those operations will provide additional space in the Freer Gallery for essential conservation activities, but will give little or no relief to crowded collection storage. The terms of the Freer bequest, which stipulate that the Freer collection not leave the Freer building except during renovation, prohibit long-term off-site storage. Given the location of the Freer building and present construction of the Sackler Gallery to the east, the only remaining possibility to gain additional space at the Freer Gallery is to excavate below the existing structure.

Aware of Congressional concerns about construction cost per square foot of space of the project proposed in FY 1986 (estimated at \$5 million), the Institution intensified the search for an alternative plan that would substantially meet the needs of all parties. The new plan reduces the construction cost to \$2.5 million while providing almost the same amount of space for the project's highest priority, collection storage. This is achieved by abandoning the effort to develop the space on the southeast side of the Freer at the same deep level (elevation: 9' 6") as the underground connection to the Sackler Gallery. Rather, the primary space for collection storage will be developed at the less costly shallower level (elevation: 16' 10") below the floor of the existing subbasement on the southwest side of the Freer. Similarly, the new plan excavates below the Freer courtyard to the less costly, shallower depth than the deep level of the underground connection. In both plans, increased HVAC capacity and major modifications of the existing HVAC system are required along with underpinning all bearing walls and columns affected, but underpinning at the shallower depth is far less costly.

While the new design provides almost the same amount of square footage of collection storage space (8,870 net square feet on the subbasement level plus 1,184 square feet on the current basement levels for half the cost, it also eliminates exhibition gallery space as well as related space for exhibition staging, for exhibition prop storage), a secure nonpublic passageway for objects and staff, flexibility in the use of spaces in the future, and an architectural elegance of design. The Freer Gallery feels that the loss of these factors is an acceptable compromise to solve the most urgent problem of collection storage. It is also understood that the timing of the project cannot be delayed if the obvious cost efficiencies are to be gained in simply expanding the already-planned excavation of one-third of the Freer's courtyard for construction of the passage connecting the Freer and the Sackler, a project included in the Quadrangle construction budget.

An amount of \$2.5 million is requested in FY 1987 to construct additional collection storage space for the Freer Gallery. This will include mechanical, electrical, security and fire protection systems, all interior finishes, and replacement of the elements of the present courtyard to its original appearance.

-- Hirshhorn Museum and Sculpture Garden - (\$125,000)

The Museum's collection has almost doubled in size as a result of the Hirshhorn bequest. Although additional space is needed to accommodate these works, a shortage of space already exists for many of the Museum's activities. Functional areas which require additional or modified space include exhibits, storage, laboratories, training, rest rooms, and the auditorium. An amount of \$75,000 appropriated for FY 1986 will be used to initiate a space use master plan to assist the Museum in making better use of existing space and in developing new space within the boundaries of the Museum site. The amount of \$125,000 is requested in FY 1987 to complete this project and to fund the design of the first phase of the required modifications.

-- Smithsonian Tropical Research Institute - (\$1,300,000)

Barro Colorado Island Conference/Dining Facility - (\$665,000):

Barro Colorado Island (BCI), located in the Gatun Lake, serves as the principal site for terrestrial research at STRI. Representing the only piece of lowland, moist forest under U.S. custodianship, the Island has attracted thousands of international researchers since its establishment in 1923. The data base which has been amassed over the years makes BCI the most studied piece of tropical real estate in the world. The importance of BCI as a research center is corroborated by the fact that present dormitory and dining facilities are inadequate to meet the demands of the present staff, and long- and short-term visitors, so that worthy applicants must be turned away.

An amount of \$665,000 is sought in FY 1987 to construct a two-story, 2,700 square foot conference/dining facility on Barro Colorado Island. The existing 50-year-old wooden frame building is in poor condition, does not meet sanitary standards, and can only accommodate serving 135 meals a day. The new building will have a dining room on the first floor, offering safe and sanitary conditions, and allow for service of 240 meals a day. The second story above the dining room will be a multipurpose room providing space for lectures, symposia and conferences which are significant parts of the intellectual life at Barro Colorado Island.

Dormitories at Naos Island and at Gamboa - (\$635,000):

STRI is one of the largest organizations in the world devoted to basic research on the ecology, evolution and behavior of tropical ecosystems. A staff of 26 professionals maintains an active research program including collaborative efforts each year by some 1,300 visiting scientists and students representing more than 200 institutions worldwide. STRI and visiting scientists and students are conducting joint studies that bear directly on natural resource issues in the tropics. To assure that continuation of collaborative research efforts, it is essential that visiting scientists and students have access to suitable housing at or near research and laboratory locations. Consequently, an amount of \$635,000 is requested in FY 1987 to construct a dormitory on Naos Island (\$415,000) and to renovate existing apartments at Gamboa (\$220,000). No local housing is otherwise convenient or economically available at these sites.

Naos Island Dormitory - For FY 1987, an amount of \$415,000 is sought to construct a two-story dormitory on Naos Island that would accommodate 10 visiting scientists. STRI's Naos marine laboratory is situated at the end of a long artificial causeway, and is bordered on one side by the Pacific entrance to the Panama Canal and on the other side by the Bay of Panama. Its location, not accessible by public transportation, is several miles away from areas in which STRI housing is available. Because marine scientists have irregular work schedules that are based on shifting tide cycles, they require accommodations that are near their work sites. An on-site dormitory would enhance research productivity. The proposed dormitory would replace several structures, located

approximately five miles from Naos near STRI's administration building in Panama City. These structures are being returned to the Panamanian Government under the terms of the Treaty. Major modifications to existing water and electricity services would not be necessary, but an independent sewage processing and disposal system would be essential. The cost of such a system is included in the amount sought.

Gamboa Dormitory - An amount of \$220,000 is requested for FY 1987 to renovate an apartment building at Gamboa. Development of a dormitory at Gamboa would serve several purposes. Gamboa is located near Barro Colorado Island and provides easy access to several field sites, including a 54,000-acre National Park of great importance for scientific research. Thus, the availability of housing in Gamboa would relieve pressure for quarters on Barro Colorado Island and at the same time establish a base for research on habitats and species that are not available on BCI.

The building which will be renovated was built to accommodate eight bachelor apartment quarters. It consists of a ground floor with enclosed garages and two upper floors with four apartments per floor. At present, it has damage to doors, walls, ceilings and floors. The renovations will result in eight double apartments with basic facilities, including a kitchenette in each apartment and a self-service laundry area.

-- Smithsonian Astrophysical Observatory, Whipple Observatory - (\$45,000)

The dormitory built in 1973 on the ridge of Mt. Hopkins provides seven bedrooms and kitchen, dining, library and recreation areas for scientists and technicians engaged in around-the-clock research and maintenance on the telescopes at the Whipple Observatory. The present structure, however, is situated at the top of a natural chimney or cleft of the mountain, making it particularly vulnerable to possible brush fire. In addition, the upstairs sleeping quarters are modified officers' barracks made of highly combustible materials, and egress from this floor is limited to the area most likely to be subject to brush fire. For FY 1987, the sum of \$45,000 is requested for design of a new dormitory to replace this building, including a study to determine the most appropriate location for the new dormitory. The new building will be approximately 2,500 square feet and will house six to eight persons. Construction costs of approximately \$400,000 will be requested in future years.

-- Advanced Planning and Design Funds - (\$200,000)

For FY 1987, an amount of \$200,000 is requested for both advanced planning and advanced design of projects in all subaccounts within the Restoration and Renovation of Buildings account and for initial planning required to estimate other construction needs of the Institution. For the majority of the R & R projects, particularly projects which are not phased and require only one year of funding, the project request includes funds for planning, design and construction. The planning and design stages require approximately ten percent of the project's funds, but may take from one to twelve months to complete, depending upon the project's complexity. Construction costs escalate at a rate of one-half percent per month, so that six percent of a project's construction funds could be lost in one year. Advanced planning and design funding will enable the Institution to develop better cost estimates and to contract for construction as soon as the R & R appropriation is received. In addition, advanced planning funds are essential to the assessment and development of future construction needs of the Institution outside the confines of the R & R account. Requirements must be identified and plans and budget estimates solidified in order to be able to include these projects in long range planning. Funds of \$200,000 appropriated in both FY 1985 and in FY 1986 are being used for these purposes. Funds will continue to be sought in future years for advanced planning and design work.

CONSTRUCTION

FY 1985 Appropriation.....	\$ -0-
FY 1986 Appropriation - Quadrangle.....	\$3,976,000
PL 99-177 (Balanced Budget & Emergency Deficit Control Act of 1985).....	\$3,805,000
FY 1987 Estimate - Quadrangle.....	\$4,000,000
FY 1987 Estimate - Smithsonian Tropical Research Institute....	\$3,500,000

Quadrangle Construction

Public Law 96-36, signed by the President on July 20, 1979, authorized planning for the development of the Quadrangle to house new facilities for museum and education purposes in the area located immediately south of the Smithsonian Building. This project, including a connecting underground link to the Freer Gallery, is estimated to cost \$73,160,000, with funding shared between government and private sponsors. In FY 1982, \$960,000 was appropriated to complete planning and design. An amount of \$36,500,000 was appropriated in FY 1983 to allow the Institution to construct a building. Because a favorable construction contract was awarded by the General Services Administration, the Congress rescinded \$8,000,000 from the construction appropriation in FY 1984. Legislative language accompanying this reduction confirmed a continuing commitment from Congress to support the project, and provided for the Institution to request future amounts necessary to complete this major initiative. To that end, \$3,805,000 has been made available to the Institution in FY 1986, and \$4,000,000 is being sought in FY 1987.

The Quadrangle building includes exhibition galleries and supporting museum facilities for the National Museum of African Art as well as for the collections of Near and Far Eastern art known as the Sackler Gallery. In addition, areas are assigned to the Smithsonian Institution Traveling Exhibition Service, the Smithsonian Resident and National Associate Programs, other public education facilities, and the International Center for special exhibitions and symposia. The building includes two small above-ground entrance pavilions which serve as introductory galleries and form an enclosure for a landscape design appropriate to the new structures, as well as to the Smithsonian Institution, Arts and Industries and Freer Gallery of Art buildings nearby. The two pavilions will allow access to three building levels below grade in which exhibition galleries, libraries, classrooms, collections storage, and administrative and technical spaces are located.

Occupancy of staff areas is expected by June 1986 on the lowest level and by July on the two upper levels. The Institution requests an appropriation of \$4,000,000 in FY 1987, to fund continuing construction management costs, to construct the tunnel link to the Freer Gallery of Art and to cover construction contingencies and claims. An amount of \$2,630,000 in Institution Trust funds will be used to round out the total funding required in this final year. The combined amount of \$6,630,000 is vital to the effective use of the Quadrangle and Freer Gallery buildings.

A revised budget for FY 1986 and FY 1987 to complete the Quadrangle project is shown below. This budget revision accurately reflects construction progress through December 1985, as well as design and construction refinements instituted over the last 18 months.

As reflected in the following chart, the revised budget reduces the overall amount (\$75 million) authorized for Quadrangle design and construction by approximately \$1.8 million.

This reduction and individual budget category refinements are intended as a final adjustment based on 75 percent construction completion, interior design contracts completed in January 1986, completion of security installation design documents, and current construction change order information. Work originally contemplated under "Final Building Preparation" has been taken care of through recent resolutions of design matters concerning exhibition space. Inasmuch as the work in question is being accomplished by "change orders," a prudent increase in construction contingency has been budgeted. The amount of Trust funds available in FY 1987 is a realistic estimate taking into account anticipated revenue from the sale of the Museum of African Art buildings and several pledged donations that are unlikely to be fulfilled.

Quadrangle Construction and Equipping Budget Plan

(\$000s) Budget Category	Overall Budget for Project		Estimated Obligations ^{/1}			
			Through		In	
	Previous	Current	FY 1986		FY 1987	
Design and Construction Mgmt.	\$ 8,960	\$ 8,630	\$ 8,300	(8,960)	\$ 330	
Site Preparation	1,500	1,500	1,500	(1,500)	-	
Construction Contract	39,400	39,400	39,400	(39,400)	-	
Freer Link Construction & Mgmt.	5,300	5,300	300	(4,700)	5,000	(600)
Construction Contingency	5,000	6,000	5,000	(3,500)	1,000	(1,500)
Government-Furnished Equipment	3,650	3,650	3,350	(2,950)	300	(700)
Security Installation	2,350	1,350	1,350	(2,350)	-	
Furnishings	6,150	6,680	6,680	(3,150)		(3,000)
Moving	450	650	650	(450)	-	
Final Building Preparation	2,200	-	-	(0)		(2,200)
TOTALS	\$74,960	\$73,160	\$66,530	(66,960)	\$6,630	(8,000)

^{/1} Amounts shown in parentheses are the allocations shown in the FY 1986 Budget to Congress.

FY 1986 Plan of Work

In FY 1986, the Smithsonian expects to complete the installation of security equipment and the purchase of furniture and equipment for public, administrative and shop areas. Furnishings for above-ground public areas include custom-made seating appropriate to thematic and architectural representations of the museums. Below-ground purchases include carpeting and lighting for exhibition areas, and classroom and conference seating and equipment. Flexible storage equipment will be required to provide proper storage of collection and library materials, and to furnish areas in which artifacts may be received and studied. Conservation, photographic, and exhibit production shop equipment will be needed as well. Amounts budgeted are based on completed design documents that will be contracted for by the Smithsonian. It is expected that the amount shown through FY 1986 will be obligated fully this year.

FY 1987 Funding Requirements

An amount of \$1,000,000 is required in FY 1987 for additional construction contingency costs to cover construction changes, as well as claims by the contractor caused by such factors as design corrections and discovery of unknown conditions. This will bring the available construction contingency up to \$6,000,000. The Smithsonian estimates that construction changes identified as of January 1986, may cost up to \$3,700,000.

An amount of \$5,000,000 is required for FY 1987 for construction of the tunnel link between the Quadrangle building and the Freer Gallery of Art. The timing of this construction will avoid extensive disruption to Freer operations and programs until they are first relocated to the completed Quadrangle building. This move is now scheduled for the fall of 1986, when weather conditions are likely to more closely resemble the temperature and humidity inside the buildings and thus reduce the chance of damage to the collections. Furthermore, this construction must be coordinated with planned work on the interior of the Freer. This portion of the Quadrangle project accordingly has been scheduled to begin in late fall of 1986.

The balance of the funding required includes \$330,000, for continued construction management services from the General Services Administration and other inspection and monitoring consultants and staff, and \$300,000 for government-furnished equipment.

Smithsonian Tropical Research Institute Research Facility

The Smithsonian Tropical Research Institute (STRI), located in the Republic of Panama, is the principal U. S. center for research in tropical biology. Each year, hundreds of U. S. and international researchers join the permanent STRI staff in undertaking fundamental studies on the tropics. Increasingly, scientists and policymakers have recognized the need to understand how tropical ecosystems function in order to predict more accurately environmental changes in the temperate zones, as well as to guide development programs that affect tropical environments.

The Smithsonian has identified a need to replace and improve obsolete, substandard facilities now in use at the Smithsonian Tropical Research Institute, as well as to provide additional facilities to support the current research program. A comprehensive master plan for all STRI facilities will be completed in FY 1986. In FY 1987, funds are requested for the construction of a terrestrial laboratory and conference center on the Tivoli site. For a number of years, the present research offices and laboratories for terrestrial scientists at STRI have been inadequate. The existing structure of approximately 12,000 square feet is located at Ancon, approximately one-half mile from the main STRI administrative complex at Tivoli. This building was transferred to STRI by the Atlantic-Pacific Inter-Oceanic Study Commission at the conclusion of its deliberations in 1970. The building dates from approximately 1919, and has served as a hospital, laboratory and morgue. Despite renovations, it has inadequate wiring and plumbing. Its layout does not allow for modern laboratory space and its hillside location precludes the development of sufficient outdoor cages or parking to satisfy current scientific requirements. In addition, a severe asbestos problem and the presence of arsenic in the basement pose potential health risks.

The construction of a new laboratory at the central administrative site at Tivoli will allow for more efficient space utilization in support of scientific programs. The research staff would have more ready access to administrative support requirements as well as the central library for research endeavors. Greater efficiency in computer usage would be possible via a master raceway network linking all buildings at a common site. Janitorial, maintenance and security services also would benefit from this consolidation. Since this building will be the principal facility for the largest group of STRI

scientists, it will include conference and seminar space and a dining facility. Site improvements will be undertaken to tie together the entire Tivoli site into an efficient complex.

This effort to modernize STRI facilities represents the largest single private cash donation received for science facility development at the Smithsonian Institution. The family of Earl S. Tupper has donated \$4,000,000 to provide the building shell. The Institution seeks \$3,500,000 to complete construction and to furnish and equip this 67,000-square-foot facility. This is an excellent example of the spirit of cooperation between the private and public sector for research and development at the United States' principal research institute in tropical biology. This new facility will redress the deficiencies allowing STRI to apply modern scientific technologies to the critical biological problems of the rapidly diminishing tropical habitats.

(\$000s)

<u>Project Cost Components</u>	<u>Estimate</u>
Construction	\$4,300
Site Improvements	610
Escalation	400
Construction Contingency	450
Design and Construction Management	720
Equipment and Furnishings	970
Moving	<u>50</u>
 Total Project Cost	 \$7,500

An amount of \$4,300,000 will be required to construct the new facility, which will provide laboratory space for approximately 12 permanent staff members and 24 visiting scientists, fellows and assistants. In addition to office and laboratory spaces, other indoor areas will include darkrooms, an aquarium room, a specialized environmental control laboratory, an analytical chemistry room, space for instrument repair, a computer room, chemical storage and disposal systems, reference collection storage, and an herbarium. Adjacent to the main laboratory will be an insectary, an aviary and a small animal facility for mammals, reptiles, and amphibians, and plant growing space. The conference center will consist of two rooms, an auditorium with a seating capacity of 180 and a room with movable partitions to host seminars, workshops and other recurring activities important to a scientific community. It will provide the capability of hosting local, regional and international conferences as well. Site improvements will include excavation and drainage, utilities, covered walkways, paved parking, and landscaping at an estimated cost of \$610,000. An amount of \$970,000 is requested for equipment and furnishings for the laboratory and conference areas and for the kitchen and dining room. Further amounts of \$400,000 will be required to cover expected escalation of project costs; \$450,000 for construction contingencies such as change orders, possible contractor claims, and obtaining materials locally versus exporting to Panama; and \$720,000 for design and construction management costs to complete the project. An additional amount of \$50,000 is requested for costs associated with the move from the Ancon facility to the new Tupper complex.

APPENDIX

SMITHSONIAN INSTITUTION
Salaries and Expenses

Report of Appropriation by Objects of Expense

(Dollars in thousands)

	<u>1985</u> <u>Actual</u>	<u>1986</u> <u>Base</u>	<u>1987</u> <u>Estimate</u>	<u>Increase 1987</u> <u>over 1986</u>
11 Personnel Compensation.....	99,794	103,706	107,929	4,223
12 Personnel Benefits.....	11,984	13,110	13,675	565
13 Benefits for Former Personnel..	250	398	398	0
21 Travel & Transportation of Persons.....	1,089	1,195	1,505	310
22 Transportation of Things.....	598	813	1,026	213
23 Rent, Communications and Utilities.....	17,182	18,477	21,349	2,872
24 Printing and Reproduction.....	1,406	1,879	2,264	385
25 Other Services.....	16,400	15,572	17,398	1,826
26 Supplies and Materials.....	7,937	9,153	10,164	1,011
31 Equipment.....	4,902	10,597	12,587	1,990
Collections Acquisition.....	1,122	1,078	1,097	19
32 Land and Structures.....	119	0	0	0
41 Grants.....	1,356	1,007	659	(348)
42 Insurance Claims and Indemnities.....	<u>9</u>	<u>10</u>	<u>10</u>	<u>0</u>
TOTAL.....	164,148	176,995	190,061	13,066

SMITHSONIAN INSTITUTION

Annual Visitation
FY 1981 - FY 1985

	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983</u>	<u>FY 1984</u>	<u>FY 1985</u>
<u>MALL</u>					
SI Building	956,190	1,017,782	950,426	966,191	1,046,151
Arts & Industries Building	1,188,507	1,098,091	1,043,224	1,046,480	1,048,089
National Museum of Natural History	4,998,736	4,961,180	5,650,406	6,336,796	5,691,681
National Air and Space Museum	7,538,954	8,453,773	9,837,651	15,123,914	9,160,371
Freer Gallery of Art	305,411	285,410	269,980	373,208	291,376
National Museum of American History	5,162,452	4,463,041	5,049,038	5,392,718	4,858,483
Hirshhorn Museum and Sculpture Garden	924,805	1,038,910	1,052,786	980,944	1,059,050
<u>OFF-THE-MALL</u>					
American Art & Portrait Gallery	384,228	356,098	397,232	368,595	373,105
Renwick Gallery	243,900	172,909	149,447	129,989	124,684
National Museum of African Art	102,314	85,874	75,238	50,312	43,661
Anacostia Neighborhood Museum	33,709	46,033	17,210	22,681	21,603
Cooper-Hewitt Museum	146,925	166,778	216,720	131,690	112,442
National Zoological Park <u>/1</u>	3,289,000	3,275,000	3,300,000	3,300,000	3,100,000
GRAND TOTAL	<u>25,275,131</u>	<u>25,420,879</u>	<u>28,009,358</u>	<u>34,223,518</u>	<u>26,930,696</u>

/1 Numbers of visitors are estimates based on a sampling system.

SMITHSONIAN INSTITUTION - FINANCIAL SUMMARY
Fiscal Years 1985 - 1987

	FY 85 <u>Actual</u>	FY 86 <u>Projected</u>	FY 87 <u>Estimate</u>
<u>SI OPERATING FUNDS</u>			
<u>FUNDS PROVIDED:</u>			
<u>FEDERAL APPROP. - S&E</u>	164,321	176,995	190,061
<u>FEDERAL GRANTS & CONTRACTS</u>	15,653	15,815	16,381
<u>NON-APPROP. TRUST FUNDS</u>			
Investment Income			
-Unrestr. General & Spec. Purpose	4,782	5,119	4,954
-Restricted	3,639	3,902	3,801
Gifts & Grants (Ex. Gifts to Endow)			
-Unrestr. General & Spec. Purpose	49	278	186
-Restricted	5,493	6,880	12,631
Self-Generated Revenues			
Institutional (Gen. Unrest.)			
-Gross Revenues	135,368	147,352	162,061
-Less Related Expenses	<u>(113,833)</u>	<u>(130,996)</u>	<u>(141,876)</u>
-Net Income	21,535	16,356	20,185
Bureau (Spec. Purpose)			
-Gross Revenues	5,792	3,756	3,675
-Less Related Expenses	<u>(5,528)</u>	<u>(3,164)</u>	<u>(2,946)</u>
-Net Income	264	592	729
Other Misc. - Unrestricted	1,913	1,554	1,467
-Restricted	<u>805</u>	<u>887</u>	<u>919</u>
Total Non-Approp. Tr. Funds - Gross	157,841	169,728	189,694
-Net of Exps. of Self-Gen. Revs.	38,480	35,568	44,872
<u>TOTAL ALL OPER. FUNDS PROVIDED:</u>			
-Gross	337,815	362,538	396,136
-Net	<u>218,454</u>	<u>228,378</u>	<u>251,314</u>
<u>FUNDS APPLIED:</u>			
Science	80,586	80,417	85,392
Less: SAO Overhead Recovery	(2,282)	(2,340)	(2,430)
History & Art	36,208	43,117	44,931
Public Service	4,480	4,210	4,350
Museum Programs	11,159	13,316	13,070
Directorate of International Act.	642	1,455	2,333
Special Programs	14,654	19,168	21,163
Associates Pgms/Business Mgmt.	930	1,076	1,045
Administration			
-Federal Appropriation	11,549	12,411	12,504
-Trust Funds	7,814	9,385	10,691
Less: SI Overhead Recovery	<u>(7,391)</u>	<u>(7,900)</u>	<u>(8,200)</u>
Facilities Services	<u>48,576</u>	<u>54,406</u>	<u>59,872</u>
<u>TOTAL OPERATING FUNDS APPLIED</u>	<u>206,925</u>	<u>228,721</u>	<u>244,721</u>
<u>TRANSFERS (Non-Approp. Trust Funds)</u>			
To Plant Funds	20	22	-
To Endowment Funds			
Unrestricted Purpose	3,014	3,100	3,500
Restricted Purpose	<u>129</u>	<u>417</u>	<u>107</u>
Total Transfers	3,163	3,539	3,607
<u>CHANGE IN FUND BALANCE</u>			
Unrestr. & Special Purpose	7,779	(3,084)	(1,279)
Restricted(Incl. Fed. Grants & Contr.)	<u>587</u>	<u>(798)</u>	<u>4,265</u>
Total	<u>8,366</u>	<u>(3,882)</u>	<u>2,986</u>
<u>FUND BALANCES - END OF YEAR</u>			
Unrestricted & Special Purpose	28,970	25,886	24,607
Restricted (Incl. Fed Grants & Contr.)	<u>9,684</u>	<u>8,886</u>	<u>13,151</u>
Total Operating Fund Balances	<u>38,654</u>	<u>34,772</u>	<u>37,758</u>

<u>OTHER FEDERAL APPROPRIATIONS</u>			
-Foreign Currency Program	8,820	2,485	0
-Construction	18,326	20,503	25,179
<u>TOTAL FEDERAL APPROPRIATIONS</u>	<u>191,467</u>	<u>199,983</u>	<u>215,240</u>

Financial Report

Ann R. Leven, Treasurer

Fiscal year 1985 was one of transition, selective growth and financial stability for the Institution. Federal appropriations enabled the Institution to fund budgeted programs and to proceed with needed repairs and renovations to Smithsonian facilities. An increase in trust fund revenues supported new initiatives during Robert McCormick Adams' first year as Secretary. The Treasurer's Office itself bustled with activity as fiscal policies came under review, a minor reorganization took place, and new ideas percolated. A dedicated staff made the year one of substantial accomplishment.

Operations

For the fiscal year ending September 30, 1985, the Federal Government provided \$164,321,000 to fund on-going operations, an increase of \$7.6 million over the previous year. This additional federal funding provided support for inflationary cost increases and important program initiatives. Incorporated in the Congressional action, however, was a two

percent reduction applied to each line item in the budget. This across the board reduction, combined with the receipt of only partial funding for the costs of legislated pay raises, required the curtailment of purchasing and hiring throughout the Institution, as well as the undesired limitation of summer evening visiting hours.

There has been a great deal of discussion both inside the Institution and by outside parties concerning the percentage of operating support actually provided by federal appropriation versus that provided by the net income available from endowments, museum shop sales and other revenue generating trust activities sources. The question is easily answered by the following chart:

<u>Source of Funds</u>	<u>Gross Revenues</u> (In \$1,000s)	<u>Net Income</u> (In \$1,000s)	<u>Net Income %</u>
Federal Appropriation	\$ 164,321	\$ 164,321	75%
Federal Gr. and Contracts	15,653	15,653	7
All Trust Sources	<u>\$ 157,841</u>	<u>38,480</u>	<u>18</u>
Total Available for			
Operations	\$ 337,815	\$ 218,454	100%

Included with this narrative are charts which graphically spell out how Smithsonian funds available for operations were allocated.

Federal appropriations provide the core support for the Institution's continuing programs in research, exhibitions, education, and collections management, including related administrative and support services.

Substantial sums go for maintenance and protection of the collections and physical plant. During fiscal 1985 major new funding was provided for the replacement of scientific equipment; for Quadrangle-related activities of the National Museum of African Art, the Sackler Gallery, and the Libraries; for research activities of the National Museum of Natural History; for exhibition activities at the National Museum of American History, including a program to commemorate the Bicentennial of the Constitution; and for enhanced guardianship and maintenance.

Support from federal agencies in the form of grants and contracts constitutes an important source of research monies for the Institution while also benefitting the granting agencies by providing access to Smithsonian expertise and resources. Sponsored research conducted during fiscal 1985 included continuing work on the algal turfs and the Caribbean king crab mariculture, systematics of *Aedes* mosquitoes, development of an optical interferometer which will substantially improve the ability to measure the angular position of stars, and development of a community-based science education program.

Income from nonappropriated trust fund sources including gifts, grants, endowment, current investments and revenue producing activities allowed the Institution to undertake new ventures and enhance existing programs in a way that might not otherwise have been possible. Notable in this regard was the establishment of a Special Exhibitions program to help support major temporary exhibitions. The highly successful Aditi Exhibition held in the Evans Gallery of the National Museum of Natural History was one of the first of these specially-funded exhibitions.

Funding for the Directorate of International Activities, which will coordinate programs for the Smithsonian's New International Center, and for the Council of Overseas Research Centers reflected a new Smithsonian emphasis on international exchange and cooperation.

Two awards programs were significantly augmented by trust funds: Fellowships and Scholarly Studies. The Fellowship program provides stipends to visiting scholars, enabling them to use the collections and resources of the Smithsonian. The Institution's Scholarly Studies program makes grant awards covering research assistance, travel and special supplies to Smithsonian scientists and scholars for individual research projects. Research needs were also served when the Institution allocated monies to convert the 24"-diameter telescope at the Whipple Observatory at Mt. Hopkins, Arizona into a 48"-diameter telescope.

Smithsonian collections benefited from trust fund availability during fiscal 1985. Anticipating the opening of the Quadrangle, the National Museum of African Art acquired a notable collection of 61 objects, ranging in date from the 12th to the 15th centuries A.D. to the mid-twentieth century. In addition, monies were set aside for the Hirshhorn Museum to purchase contemporary art.

Substantial funds were also made available for computer enhancement, as the Institution continues its efforts to improve administrative efficiency and collections accessibility. It is also instructive to note that trust funds enabled the Smithsonian to assist the Visions Foundation to publish its new magazine of Afro-American culture. The first issue of American Visions is scheduled to appear in conjunction with the first

Martin Luther King Jr. national holiday.

Special Foreign Currency Program

Foreign currencies, accumulated primarily from sales of surplus agricultural commodities under Public Law 83-480 and determined by the Treasury Department to be in excess of the current needs of the United States, are made available to the Institution through the Special Foreign Currency appropriation. In fiscal year 1985, the Smithsonian obligated \$9,258,000, equivalent in excess currencies, for scientific work primarily in India but also in Pakistan, Burma and Guinea. The monies were made available to United States institutions for research and advanced professional training in fields of traditional Smithsonian interests and competence. The reserve for the American Institute of Indian Studies was increased by \$3.9 million, and the third of four planned contributions was made to the international effort to restore and preserve the ancient city of Moenjodaro in Pakistan.

Construction and Plant Funds

Construction of the Quadrangle proceeded on schedule during 1985.

During the course of the year, a very large pledge was deemed uncollectable and has been taken as a write-off in the attached statements. This situation is regrettable but will not jeopardize completion of the project. All other major pledges have been collected or are on a progress payment schedule.

On a more positive financial note, the Smithsonian Tropical Research Institute received a commitment and first payment on a pledge of \$4,000,000 towards the construction of the Earl S. Tupper Research and Conference Center. Named after the father of the donor, the long needed building will provide conference space and updated research facilities for the Institute.

Perhaps the biggest surprise of the year came when the Institution put up for auction the gaily decorated yellow 1966 Rolls Royce once used by the Beatles. A donation to the Cooper-Hewitt Museum for fundraising purposes from John and Yoko Lennon, the car remained on the Institution's books as an unaccessioned item since 1978. When the flurry of bidding was over, the car brought the unprecedented sum of \$2,086,450. Purchased by Mr. Jim Pattison, the car will be an integral part of the 1986 World's Fair to be held in Vancouver, British Columbia. The funds garnered by its sale have been deposited to benefit the Cooper-Hewitt Museum.

Endowment

The Smithsonian's Endowment Fund reached an all-time high of \$148,588,051 on September 30, 1985. It is important to recognize that the Endowment's recent growth can be attributed in large part to successful investment management and yearly additions drawn from revenues generated by the Institution's auxiliary activities.

The success of the Endowment is a living tribute to the memory of Regent William A. M. Burden, who served as Chairman of the Institution's Investment Policy Committee for fourteen years until his death on October 10, 1984. Regent Carlisle H. Humelsine assumed the role of Acting Chairman of the Investment Policy Committee at its fall 1984 meeting.

The Committee met three times during the fiscal year to review the management of the endowment funds. During the past year, the Institution has been equity oriented; this posture served it well as the stock market enjoyed an ebullient period during the summer of 1985. The Institution utilized the Total Return Income policy; total investment return is defined as yield (interest and dividends) plus appreciation, including both realized and unrealized gains. A portion of this return is made available for expenditure each year, and the remainder is reinvested as principal.

The Institution has four investment advisors: Fiduciary Trust

Company, Batterymarch Financial Management, Torray Clark and Company, and Rollert and Sullivan Company, the successor to Granahan-Everitt. Advisors are given full discretion as to asset allocation and stock selection. At the suggestion of Batterymarch, in the fall of 1984, the Institution invested in the Trustees Commingled Fund-International Equity Portfolio. The handsome return provided by this investment along with the substantial appreciation enjoyed by the domestic stock market contributed to the endowment fund's stellar performance in 1985.

The Investment Policy Committee served as counsel to the Regents on the difficult questions surrounding investments in companies doing business in South Africa. On June 17, 1985, the Executive Committee of the Board of Regents instructed the Smithsonian's investment managers to dispose of the Institution's holdings in U.S. corporations which had not signed the Sullivan Principles, a code of conduct for American companies operating in South Africa. At the same time, the Executive Committee directed the managers to make new investments only in those corporations that were subscribers to the Sullivan Principles or had no business interests in South Africa. Parenthetically, the Smithsonian does not have and never has had any direct investments in South Africa.

At their meeting on September 16, 1985, the last of the fiscal year, the full Board of Regents reaffirmed the actions of the Executive Committee. Mindful both of their fiduciary obligations and of the Institution's position in American society, the Regents continue to monitor events in South Africa and developments in U.S. policy with respect to that nation. The Smithsonian has joined with the South Africa

Research Consortium, a loose federation of 37 colleges and universities, to supplement currently available information on the impact of investments on the South African economy.

Financial Management Activities

The arrival of a new Treasurer set in motion a general reassessment of the Institution's financial management practices and procedures. Falling under the aegis of the Treasurer are a diverse group of activities: Office of Accounting and Financial Services, Investment Management, Museum Shops, Mail Order Division, Parking, Concessions, Product Licensing and Risk Management. With the exception of the Office of Accounting and Financial Services, the orientation is primarily on generating and securing private funds. The Treasurer maintains a close working relationship with the Budget Office, under the Assistant Secretary for Administration, and the Office of Membership and Development.

A significant part of 1985 was spent by the Treasurer with assistance from staff and the Institution's internal and external auditors in assessing the capabilities of these offices and establishing goals. Highest priority has been given to maintaining the integrity of on-going operations while planning for extensive future automation that would simplify record keeping, accelerate cash disbursements and enhance overall fiscal efficiency.

The need for more senior management, particularly in the areas of investment management and long term financial systems planning, became apparent as the assessment progressed. Thus, in April 1985, John R. Clarke was promoted to Assistant Treasurer for Financial Management and Planning. Mr. Clarke has served the Institution in various capacities during his thirteen year tenure, most recently as Executive Assistant to the Treasurer and previously as Acting Budget Officer. His mandate is to oversee the Institution's working capital investment pool and endowment accounting and to work with internal resources in the development of new automated fiscal systems appropriate to the Institution's needs.

Related Organizations

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. Each organization is administered by its own board of trustees and reports independently on its financial status. Fiscal, administrative, and other support services are provided the Woodrow Wilson International Center for Scholars on a reimbursement basis by the Smithsonian; office space is made available for Center operations. Administrative services are also offered by the Institution on a contract basis to Reading is Fundamental, Inc. and the Visions Foundation. An independent nonprofit corporation, the Friends of

the National Zoo (FONZ) operates under contract a number of beneficial concessions for the National Zoological Park.

Accounting and Auditing

The Institution's funds, federal and nonappropriated, are audited annually by the independent public accounting firm of Coopers & Lybrand. Their report for fiscal year 1985 is reprinted on the following pages. Coopers & Lybrand's consulting staff also provided assistance to the Institution during the year at the request of the Treasurer. Special studies were done with respect to payroll/personnel systems and the handling of cash receipts.

The Smithsonian's own internal audit staff regularly reviews the Smithsonian's activities and fiscal systems during the year. Additionally, the Defense Contract Audit Agency conducts an annual audit of grants and contracts received from federal agencies and monitors allocated administrative costs.

The Audit and Review Committee of the Board of Regents, chaired by Regent David Acheson, met three times during the fiscal year pursuant to their responsibilities under the bylaws of the Institution. In addition to reviewing the 1984 audit performed by Coopers & Lybrand, special attention was given by the Committee to the Institution's Business Management activities and the management of the National Zoo.

TABLE 1. Financial Summary
(In \$1,000s)

	FY 1983	FY 1984	FY 1985
INSTITUTIONAL OPERATING FUNDS			
FUNDS PROVIDED:			
Federal Appropriations-Salaries & Expenses	\$147,256	\$156,683	\$164,321
Federal Agency Grants & Contracts	13,125	14,878	15,653
Nonappropriated Trust Funds:			
For Restricted Purposes	9,162	10,182	9,937
For Unrestricted & Special Purposes:			
Auxiliary & Bureau Activities Revenues-Gross ...	104,129	117,550	141,160
Less Related Expenses	<u>(89,397)</u>	<u>(97,808)</u>	<u>(119,361)</u>
Auxiliary & Bureau Activities Net Revenue	14,732	19,652	21,799
Investment, Gift & Other Income	<u>4,302</u>	<u>5,057</u>	<u>6,744</u>
Total Net Unrestricted & Special Purpose Revenue	19,034	24,709	28,543
Total Nonappropriated Trust Funds-Gross	117,593	132,789	157,841
-Net	28,196	34,891	38,480
Total Operating Funds Provided-Gross	277,974	304,350	337,815
-Net	<u>\$188,577</u>	<u>\$206,452</u>	<u>\$238,454</u>
FUNDS APPLIED:			
Science	\$ 68,895	\$ 74,134	\$ 80,586
Less SAC Overhead Recovery	(2,264)	(2,226)	(2,282)
History & Art	30,979	33,011	36,208
Public Service	2,843	3,526	4,480
Museum Programs	9,702	10,976	11,159
Directorate of International Activities	-	-	642
Special Programs	13,342	14,805	14,654
Associates & Business Management	1,057	884	930
Administration-Federal *	11,032	12,201	11,549
-Nonappropriated Trust Funds	7,226	8,211	7,814
Less Smithsonian Overhead Recovery	(6,331)	(6,528)	(7,391)
Facilities Services	<u>43,653</u>	<u>46,821</u>	<u>48,576</u>
Total Operating Funds Applied	180,134	195,815	206,925
Transfers (Nonappropriated Trust Funds)			
Unrestricted Funds-To Plant	2,069	3,424	20
-To Endowment	3,084	3,313	3,014
Restricted Funds -To Endowment	<u>637</u>	<u>222</u>	<u>129</u>
Total Operating Funds Applied & Transferred Out	<u>\$185,924</u>	<u>\$202,774</u>	<u>\$210,088</u>
CHANGES IN NCNAPPROPRIATED TRUST FUND BALANCES:			
Restricted Purpose (Incl. Fed. Agency Gr. & Contracts)	\$ 1,765	\$ 1,426	\$ 587
Unrestricted-General Purpose	28	10	52
-Special Purpose	<u>860</u>	<u>2,242</u>	<u>7,727</u>
Total	<u>\$ 2,653</u>	<u>\$ 3,678</u>	<u>\$ 8,366</u>
YEAR-END BALANCES-NCNAPPROPRIATED TRUST FUNDS:			
Restricted Purpose	\$ 7,671	\$ 9,097	\$ 9,684
Unrestricted-General Purpose	5,076	5,086	5,138
-Special Purpose	<u>13,863</u>	<u>16,305</u>	<u>23,832</u>
Total	<u>\$ 26,610</u>	<u>\$ 30,288</u>	<u>\$ 38,654</u>
OTHER FEDERAL APPROPRIATIONS			
Special Foreign Currency Program	\$ 2,000	\$ 7,040	\$ 8,820
Construction	<u>46,500</u>	<u>4,500</u>	<u>18,326</u>
Total Federal Appropriations (Incl. S&E above)	<u>\$195,756</u>	<u>\$168,223</u>	<u>\$191,467</u>

*Includes unobligated funds returned to Treasury: FY 1983 - \$62,000; FY 1984 - \$102,000; FY 1985 - \$173,000.

TABLE 2. Source and Application of Operating Funds
Year Ended September 30, 1985

(Excludes Special Foreign Currency Funds, Plant Funds and Endowments)
(In \$1,000s)

Funds	Nonfederal Funds						
	Federal Funds	Total non-federal Funds	Unrestricted			Restricted	
			General	Auxiliary Activities	Special Purpose	General	Grants and Contracts
FUND BALANCES-10/1/84	\$ -	\$ 30,288	\$ 5,086	\$ -	\$ 16,105	\$ 8,810	\$ 287
FUNDS PROVIDED							
Federal Appropriations	164,321	-	-	-	-	-	-
Investment Income	-	8,421	4,137	-	645	3,639	-
Grants and Contracts	-	15,652	-	-	-	-	15,652
Gifts	-	8,692	37	3,150	12	5,493	-
Sales and Revenue	-	138,010	-	132,218	5,792	-	-
Other	-	2,719	233	-	1,680	805	1
Total Provided	<u>164,321</u>	<u>173,494</u>	<u>4,407</u>	<u>135,368</u>	<u>8,129</u>	<u>9,937</u>	<u>15,653</u>
Total Available	<u>\$164,321</u>	<u>\$203,782</u>	<u>\$ 9,493</u>	<u>\$135,368</u>	<u>\$24,234</u>	<u>\$18,747</u>	<u>\$15,940</u>
FUNDS APPLIED							
<u>Science:</u>							
Assistant Secretary	\$ 516	\$ 1,555	\$ 96	\$ -	\$ 62	\$ 228	\$ 1,169
Natl. Mus. of Nat. History/ Museum of Man	20,194	4,610	65	-	1,791	1,691	1,063
Astrophysical Observatory	8,446	16,894	2,310	-	1,718	268	12,598
Less Overhead Recovery	-	(2,282)	(2,282)	-	-	-	-
Tropical Research Institute ...	3,554	971	148	-	481	338	4
Environmental Resch. Center ...	3,324	613	82	-	130	24	377
Natl. Air & Space Museum	8,112	3,488	8	-	3,127	252	101
Natl. Zoological Park	11,104	562	110	-	216	156	80
Total Science	<u>55,250</u>	<u>26,411</u>	<u>537</u>	<u>-</u>	<u>7,525</u>	<u>2,957</u>	<u>15,392</u>
<u>History and Art:</u>							
Assistant Secretary	401	5	5	-	-	-	-
Natl. Mus. of Am. History	11,081	1,461	355	-	797	268	41
Natl. Mus. of American Art.....	4,625	931	63	-	551	315	2
Natl. Portrait Gallery	3,407	326	13	-	121	192	-
Hirshhorn Museum	2,923	491	14	-	258	219	-
Center for Asian Art	1,549	2,247	56	-	59	2,132	-
Archives of American Art	732	998	2	-	1	995	-
Cooper-Hewitt Museum	880	2,156	720	-	944	421	71
Natl. Mus. of African Art	1,188	763	600	-	105	58	-
Anacostia Museum	817	39	38	-	-	1	-
Total History and Art ...	<u>27,603</u>	<u>9,417</u>	<u>1,866</u>	<u>-</u>	<u>2,836</u>	<u>4,601</u>	<u>114</u>

TABLE 2. Source and Application of Operating Funds
Year Ended September 30, 1985

(Excludes Special Foreign Currency Funds, Plant Funds and Endowments)
(In \$1,000s)

Funds	Nonfederal Funds						
	Federal Funds	Total non-federal Funds	Unrestricted			Restricted	
			General	Auxiliary Activities	Special Purpose	General	Grants and Contracts
<u>Public Service:</u>							
Assistant Secretary	217	469	102	-	289	78	-
Reception Center	181	663	662	-	1	-	-
Telecommunications	213	686	522	-	163	1	-
Smithsonian Press	1,124	13,753	-	13,646	49	58	-
Office of Public Affairs	559	336	325	-	10	1	-
Total Public Service	2,294	15,907	1,611	13,646	512	138	-
<u>Museum Programs:</u>							
Assistant Secretary	593	473	14	-	81	376	2
Registrar	32	-	-	-	-	-	-
Conserv. Analytical Laboratory	1,097	29	-	-	29	-	-
Libraries	4,252	360	312	-	12	36	-
Exhibits	1,470	87	-	-	87	-	-
Traveling Exhib. Service.	332	2,638	-	1,561	413	651	13
Archives	511	147	146	-	1	-	-
National Museum Act	753	-	-	-	-	-	-
Total Museum Programs ...	9,040	3,734	472	1,561	623	1,063	15
Directorate of Int'l Activities:	272	370	370	-	-	-	-
<u>Special Programs:</u>							
Am. Studies & Folklife Pgm. ...	698	1,380	514	-	503	320	43
Int. Environ. Science Pgm.	680	-	-	-	-	-	-
Academic & Educational Pgm. ...	705	2,004	370	-	1,552	82	-
Collections Mgt./Inventory	1,019	-	-	-	-	-	-
Museum Support Center	7,484	83	-	-	83	-	-
JFK Center Grant	686	-	-	-	-	-	-
Total Special Programs ..	11,272	3,467	884	-	2,138	402	43
Associate Programs	-	69,155	857	68,214	56	24	4
Business Management	-	30,334	-	30,334	-	-	-
Administration	11,376	8,986	7,072	78	1,722	114	-
Less Overhead Recovery	-	7,391	7,391	-	-	-	-
Facilities Services	47,041	1,575	1,422	-	146	7	-
<u>Transfers Out/(In):</u>							
Treasury	173*	-	-	-	-	-	-
Coll.Acq., Schol.St., Outreach	-	-	2,700	-	(2,700)	-	-
Net Auxiliary Activities	-	-	(20,720)	20,720	-	-	-
Other Designated Purposes	-	-	11,655	815	(12,470)	-	-
Plant	-	20	20	-	-	-	-
Endowment	-	3,143	3,000	-	14	129	-
Total Transfers	173	3,163	(3,345)	21,535	(15,156)	129	-
Total Funds Applied	\$164,321	\$165,128	\$ 4,355	\$135,368	\$ 402	\$9,435	\$15,568
FUND BALANCES 9/30/85	\$ -	\$ 38,654	\$ 5,138	\$ -	\$23,832	\$9,312	\$ 372

*Unobligated funds returned to Treasury

TABLE 3. Grants and Contracts-Expenditures
(In \$1,000s)

Federal Agencies	FY 1983	FY 1984	FY 1985
Agency for International Development	\$ -	\$ 428	\$ 828
Department of Commerce	(7)	57	87
Department of Defense	1,299	1,056	1,245
Department of Energy	358	227	260
Department of Health and Human Services	280	273	438
Department of Interior	238	204	196
National Aeronautics and Space Administration*	9,551	11,275	11,425
National Science Foundation**	928	820	895
Other	415	501	194
Total	<u>\$13,062</u>	<u>\$14,841</u>	<u>\$15,568</u>

*Includes \$197,000 (FY 1983), \$399,000 (FY 1984), and \$495,000 (FY 1985) in subcontracts from other organizations receiving prime contract funding from NASA.

**Includes \$196,000 (FY 1983), \$250,000 (FY 1984), and \$321,000 (FY 1985) in NSF subcontracts from the Chesapeake Research Consortium.

TABLE 4. Restricted Operating Trust Funds*

Fiscal Years 1983-1985

(In \$1,000s)

Item	Invest- ment	Gifts	Miscel- laneous	Total revenue	Deduc- tions	Trans- fers in (out)	Net In- crease (de- crease)	Fund bal- ance end of Year
FY 1983 - Total	<u>\$2,971</u>	<u>\$5,419</u>	<u>\$ 772</u>	<u>\$ 9,162</u>	<u>\$6,823</u>	<u>\$ (637)</u>	<u>\$ 1,702</u>	<u>\$7,421</u>
FY 1984 - Total	<u>\$3,236</u>	<u>\$5,859</u>	<u>\$1,087</u>	<u>\$10,182</u>	<u>\$8,571</u>	<u>\$ (222)</u>	<u>\$ 1,389</u>	<u>\$8,810</u>
FY 1985:								
National Museum of Natural History	\$1,279	\$ 592	\$ 18	\$1,889	\$1,691	\$ (11)	\$ 187	\$1,530
Astrophysical Observatory	84	159	-	243	268	3	(22)	(38)
Tropical Research Institute	55	546	-	601	338	10	273	508
National Air and Space Museum	89	259	2	350	252	-	98	177
National Zoological Park	25	100	-	125	156	-	(31)	118
Other Science	135	131	-	266	252	(128)	(114)	578
National Museum of American History	80	491	3	574	268	-	306	833
National Museum of American Art	93	400	5	498	315	-	183	663
National Portrait Gallery	19	139	-	158	192	-	(34)	145
Hirshhorn Museum	70	1	-	71	219	-	(148)	588
Center for Asian Art	1,256	26	539	1,821	2,132	-	(311)	1,241
Archives of American Art	34	578	206	818	995	-	(177)	353
Cooper-Hewitt Museum	94	642	28	764	421	-	343	1,036
Traveling Exhibition Service	87	522	-	609	651	-	(42)	888
All Other	<u>239</u>	<u>907</u>	<u>4</u>	<u>1,150</u>	<u>1,156</u>	<u>(3)</u>	<u>(9)</u>	<u>692</u>
Total FY 1985	<u>\$3,639</u>	<u>\$5,493</u>	<u>\$ 805</u>	<u>\$9,937</u>	<u>\$9,306</u>	<u>\$ (129)</u>	<u>\$ 502</u>	<u>\$9,312</u>

*Does not include Federal Agency Grants and Contracts

TABLE 5. Unrestricted Trust Funds-General and Auxiliary Activities
 Fiscal Years 1983-1985
 (In \$1,000s)

Item	FY 1983	FY 1984	FY 1985
FUNDS PROVIDED			
General Income:			
Investments	\$ 2,489	\$ 3,108	\$ 4,137
Gifts	24	35	37
Miscellaneous	<u>46</u>	<u>(6)</u>	<u>233</u>
Total General Income	<u>2,559</u>	<u>3,137</u>	<u>4,407</u>
Auxiliary Activities Income (Net):			
Associates	9,864	13,075	13,518
Business Management:			
-Museum Shops and Mail Order	2,710	3,711	5,292
-Concessions, Parking and Food Services..	1,670	1,691	1,077
-Other	(300)	(206)	(228)
Smithsonian Press	232	1,158	2,176
Traveling Exhibitions	(363)	(421)	(311)
Photo Services	<u>19</u>	<u>5</u>	<u>11</u>
Total Auxiliary Activities	<u>13,832</u>	<u>19,013</u>	<u>21,535</u>
Total Funds Provided (Net)	<u>16,391</u>	<u>22,150</u>	<u>25,942</u>
EXPENDITURES AND TRANSFERS			
Administrative and Program Expense	14,727	16,769	17,373
Less Administrative Recovery	<u>8,595</u>	<u>8,754</u>	<u>9,673</u>
Net Expense	<u>6,132</u>	<u>8,015</u>	<u>7,700</u>
Less Transfers:			
To Special Purpose for Program Purposes .	5,205	7,429	15,170
To Plant Funds	2,005	3,400	20
To Endowment Funds	<u>3,021</u>	<u>3,296</u>	<u>3,000</u>
NET ADDITION TO FUND BALANCE	<u>23</u>	<u>10</u>	<u>52</u>
ENDING FUND BALANCE	<u>\$ 5,076</u>	<u>\$ 5,086</u>	<u>\$ 5,138</u>

TABLE 6. Auxiliary Activities Fiscal Years 1983-1985
(In \$1,000s)

Activity	Sales and other revenue	Gifts	Less cost of sales	Gross revenue	Expenses	Net revenue** (loss)
FY 1983	\$ 98,826	\$ 2,171	\$ 57,527	\$ 43,470	\$ 29,638	\$ 13,832
FY 1984	\$ 112,179	\$ 2,698	\$ 65,309	\$ 49,568	\$ 30,555	\$ 19,013
FY 1985:						
Associates	\$ 78,582	\$ 3,150	\$ 52,736	\$ 28,996	\$ 15,478	\$ 13,518
Business Management:						
-Museum Shops#	33,668	-	18,272	15,396	10,104	5,292
-Concessions/Parking	2,652	-	-	2,652	1,575	1,077
-Other	155	-	-	155	383	(228)
Smithsonian Press	15,821	-	4,908	10,913	8,737	2,176
Traveling Exhibitions	1,250	-	667	583	894	(311)
Photo Services (Administration)	90	-	10	80	69	11
Total FY 1985	\$ 132,218	\$ 3,150	\$ 76,593	\$ 58,775	\$ 37,240	\$ 21,535

Includes Museum Shops and Mail Order.

** Before revenue-sharing transfers to participating Smithsonian bureaus of \$486,000 (FY 1983); \$638,000 (FY 1984); and \$815,000 (FY 1985).

TABLE 7. Unrestricted Special Purpose Funds
Fiscal Years 1983-1985
(In \$1,000s)

Item	Revenue				Trans fers in (out)	Deductions			Fund bal- ance end of year
	In- vest- ment	Bu- reau activi- ties	Gifts and other rev- enue	Total rev- enue		Pro- gram ex- pense	Bu- reau activ- ity ex- pense	Net in- crease (de- crease)	
FY 1983.....	<u>\$686</u>	<u>\$3,132</u>	<u>\$1,057</u>	<u>\$4,875</u>	<u>\$ 5,078</u>	<u>\$ 6,861</u>	<u>\$2,232</u>	<u>\$ 860</u>	<u>\$13,863</u>
FY 1984.....	<u>\$679</u>	<u>\$2,673</u>	<u>\$1,241</u>	<u>\$4,593</u>	<u>\$ 7,388</u>	<u>\$ 7,705</u>	<u>\$2,034</u>	<u>\$2,242</u>	<u>\$16,105</u>
FY 1985:									
National Museum of Natural History	\$ 75	\$ 2	\$ 47	124	\$ 2,089	\$ 1,791	\$ -	\$ 422	\$ 1,276
Astrophysical Observatory .	7	546	27	580	943	547	565	411	1,090
Astrophysical Observatory Computer Center	-	606	-	606	-	-	606	-	-
Tropical Research Institute	16	193	-	209	221	279	202	(51)	102
National Air and Space Museum	111	2,204	240	2,555	(115)	1,193	1,934	(687)	1,306
Environmental Research Center	9	34	5	48	98	95	35	16	191
National Zoological Park ..	251	-	480	731	246	216	-	761	3,071
National Museum of American History	22	41	102	165	1,180	686	107	552	1,034
National Museum of American Art	18	9	99	126	586	546	5	161	336
National Portrait Gallery .	4	12	22	38	70	111	10	(13)	122
Hirshhorn Museum	19	-	66	85	3,205	258	-	3,032	3,496
Cooper-Hewitt Museum	21	786	198	1,005	488	255	689	549	751
National Museum of African Art	1	3	19	23	572	104	1	490	538
Office of Telecommunica- tions	-	53	-	53	-	88	75	(110)	164
Liability Reserves	-	-	-	-	133	36	-	97	3,370
Unallocated Coll. Acq., Schol. Studies, Outreach and Spec. Exhib.	-	-	-	-	1,115	-	-	1,115	1,685
Fellowships	27	-	-	27	1,627	1,468	-	186	1,220
Museum Support Center Equipment	-	-	-	-	-	83	-	(83)	318
Traveling Exhibition Service	3	-	56	59	490	413	-	136	446
Smithsonian Central Computer Center	-	1,061	34	1,095	-	-	1,095	-	-
All Other	<u>61</u>	<u>242</u>	<u>297</u>	<u>600</u>	<u>2,208</u>	<u>1,861</u>	<u>204</u>	<u>743</u>	<u>3,316</u>
Total FY 1985	<u>\$645</u>	<u>\$5,792</u>	<u>\$1,692</u>	<u>\$8,129</u>	<u>\$15,156</u>	<u>\$10,030</u>	<u>\$5,528</u>	<u>\$7,727</u>	<u>\$23,832</u>

TABLE 8. Special Foreign Currency Program
 Fiscal Year 1985 - Obligations
 (In \$1,000s)

Country	Archae- ology	System- atic and environ- mental biology	Astro- physics and earth sciences	Mu- seum pro- grams	Grant Admin- istra- tion	Total
India	\$6,932	\$262	\$236	\$42	\$632*	\$8,104
Pakistan	1,095	10	15	-	7	1,127
Burma	-	5	-	1	-	6
Guinea	<u>21</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>21</u>
Total	<u>\$8,048</u>	<u>\$277</u>	<u>\$251</u>	<u>\$43</u>	<u>\$639</u>	<u>\$9,258</u>

*Includes \$475,500 for translation services in support of all programs.

Table 9. Construction and Plant Funds Fiscal Years 1983-1985
(In \$1,000s)

Sources	FY 1983	FY 1984	FY 1985
FUNDS PROVIDED			
Federal Appropriations:			
National Zoological Park	\$ 1,550	\$ 3,500	\$ 4,851
Restoration and Renovation of Buildings	8,450	9,000	13,475
Quadrangle	<u>36,500</u>	<u>(8,000)</u>	<u>-</u>
Total Federal Appropriations	<u>46,500</u>	<u>4,500</u>	<u>18,326</u>
Nonappropriated Trust Funds:			
Income - Gift and Other			
Smithsonian Environmental Research Center-Gain on Sale	44	-	-
Smithsonian Tropical Research Institute-Research Facilities	66	20	373
Erection of Jacksonville Bandstand	174	12	3
Cooper-Hewitt Museum	163	32	2,544
American Art and Portrait Gallery Building Quadrangle and Related	21	21	20
Smithsonian Institution Building South Entrance	14,574	8,098	1,908**
Belmont Conference Center-Gain on Sale ...	5	3	1
Horticulture Antique Greenhouse	1,405*	-	-
	<u>-</u>	<u>16</u>	<u>-</u>
Total Income	<u>16,452</u>	<u>8,202</u>	<u>4,849</u>
Transfers from Current Funds:			
National Museum of African Art	24	24	20
Quadrangle	2,040	2,700	-
East Garden	5	-	-
Secretaries' Residence	<u>-</u>	<u>700</u>	<u>-</u>
Total Transfers	<u>2,069</u>	<u>3,424</u>	<u>20</u>
Total Funds Provided	<u>\$65,021</u>	<u>\$16,126</u>	<u>\$23,195</u>

*Total proceeds realized of \$1,993,000; of which \$1,750,000 was directed to construction of the Museum Support Center and \$208,000 was transferred to endowment funds.

**In the application of Plant Funds for this project, a \$4,000,000 pledge receivable was written off as uncollectible.

TABLE 10. Endowment and Similar Funds September 30, 1985

	Book Value	Market Value
ASSETS		
Pooled Consolidated Endowment Funds:		
Cash and Equivalents.....	\$ 19,351,107	\$ 19,351,107
Bonds.....	9,464,055	10,399,674
Convertible Bonds.....	3,753,813	3,266,500
Stocks.....	<u>103,587,334</u>	<u>114,282,790</u>
Total Pooled Funds.....	<u>136,156,309</u>	<u>147,300,071</u>
Nonpooled Endowment Funds:		
Loan to U.S. Treasury in Perpetuity.....	1,000,000	1,000,000
Notes Receivable.....	40,754	40,754
Bonds.....	10,000	10,226
Land, Net.....	<u>237,000</u>	<u>237,000</u>
Total Nonpooled Funds.....	<u>1,287,754</u>	<u>1,287,980</u>
Total Endowment and Similar Fund Balances..	<u>\$137,444,063</u>	<u>\$148,588,051</u>
FUND BALANCES		
Unrestricted Purpose:		
True Endowment.....	\$ 4,537,800	\$ 5,469,631
Quasi Endowment.....	<u>58,957,335</u>	<u>61,073,854</u>
Total Unrestricted Purpose.....	<u>63,495,135</u>	<u>66,543,485</u>
Restricted Purpose:		
True Endowment.....	54,875,497	61,360,250
Quasi Endowment.....	<u>19,073,431</u>	<u>20,684,316</u>
Total Restricted Purpose.....	<u>73,948,928</u>	<u>82,044,566</u>
Total Endowment and Similar Fund Balances..	<u>\$137,444,063</u>	<u>\$148,588,051</u>

TABLE 11. Market Values of Pooled Consolidated Endowment Funds
(In \$1,000s)

FUND	9/30/81	9/30/82	9/30/83	9/30/84	9/30/85
Unrestricted.....	\$30,399	\$35,974	\$ 54,677	\$ 56,592	\$ 65,404
Freer.....	20,472	22,596	32,096	31,125	34,066
Other Restricted..	<u>27,101</u>	<u>30,288</u>	<u>43,911</u>	<u>43,396</u>	<u>47,830</u>
Total.....	<u>\$77,972</u>	<u>\$88,858</u>	<u>\$130,684</u>	<u>\$131,113</u>	<u>\$147,300</u>

TABLE 12. Changes in Pooled Consolidated Endowment Funds
for Fiscal Year 1985
(In \$1,000s)

Fund	Market value 9/30/84	Gifts and trans- fers	Inter- est and divi- dends*	Income paid cut	Sub- total	Market value appre- ciation	Market value 9/30/85
Unrestricted....	\$ 56,592	\$3,056	\$2,885	\$1,583	\$ 60,950	\$ 4,454	\$ 65,404
Freer.....	31,125	-	1,582	1,131	31,576	2,490	34,066
Other Restricted	<u>42,396</u>	<u>332</u>	<u>2,212</u>	<u>1,581</u>	<u>44,359</u>	<u>3,471</u>	<u>47,830</u>
Total.....	<u>\$131,113</u>	<u>\$3,388</u>	<u>\$6,679</u>	<u>\$4,295</u>	<u>\$136,885</u>	<u>\$10,415</u>	<u>\$147,300</u>

*Income earned, less managers' fees of \$555,507

TABLE 13. Endowment Funds September 30, 1985

	Principal		Income	
	Book value	Market value	Net income	Unexpended balance
UNRESTRICTED PURPOSE-TRUE:				
Avery Furd*	\$ 152,106	\$ 187,057	\$ 4,968	\$ -0-
Higbee, Harry, Memorial	44,544	54,691	1,342	-0-
Hodgkins Fund*	248,869	262,753	9,568	-0-
Morrow, Dwight W.	267,624	336,430	8,258	-0-
Mussinan, Alfred	83,862	98,386	2,415	-0-
Olmsted, Helen A.	2,800	3,434	64	-0-
Poore, Lucy T. and George W.* ...	596,599	746,575	19,042	-0-
Porter, Henry Kirke, Memorial ...	989,580	1,242,312	30,494	-0-
Sanford, George H.*	4,293	5,070	154	-0-
Smithson, James*	599,277	596,747	29,200	-0-
Walcott, Charles D. and Mary Vaux, Research (Designated)	<u>1,548,246</u>	<u>1,926,176</u>	<u>69,053</u>	<u>29,475</u>
Subtotal	<u>4,537,800</u>	<u>5,469,631</u>	<u>174,578</u>	<u>29,475</u>
UNRESTRICTED PURPOSE-QUASI:				
Forrest, Robert Lee	3,845,679	3,743,819	91,895	-0-
General Endowment*	50,218,718	52,388,962	1,225,531	-0-
Goddard, Robert H.	30,425	29,649	728	-0-
Habel, Dr. S.*	553	551	27	-0-
Hart, Gustavus E.	1,962	2,219	54	-0-
Henry, Caroline	4,855	5,472	134	-0-
Henry, Joseph and Harriet A.	195,247	218,870	5,372	-0-
Heys, Maude C.	369,205	364,294	8,942	-0-
Hinton, Carrie Susan	99,435	106,568	2,616	-0-
Lambert, Paula C.	179,215	195,512	4,799	-0-
Medinus, Grace L.	3,656	3,626	89	-0-
Rhees, William Jones*	2,542	2,772	85	-0-
Safford, Clara Louise	168,811	170,158	4,177	-0-
Smithsonian Bequest Fund*	742,745	755,293	13,825	-0-
Taggart, Ganson	1,673	2,073	51	-0-
Abbott, William L. (Designated) ..	457,303	514,463	17,081	31,598
Barstow, Frederic D. (Designated). Lindbergh Chair of Aerospace History (Designated)	3,828	4,300	143	5,553
Lindbergh, Charles A. (Designated)	1,754,572	1,781,810	59,159	80,859
Lyon, Marcus Ward, Jr. (Designated)	15,114	16,510	1,324	9,342
Webb, James E., Fellowship (Designated)	15,184	15,330	509	2,666
Subtotal	<u>846,602</u>	<u>751,603</u>	<u>24,955</u>	<u>25,723</u>
Subtotal	<u>52,957,235</u>	<u>51,073,954</u>	<u>1,461,404</u>	<u>156,747</u>
Total Unrestricted Purpose	<u>\$ 62,405,125</u>	<u>\$ 66,543,485</u>	<u>\$ 1,526,072</u>	<u>\$ 186,215</u>
RESTRICTED PURPOSE - TRUE:				
Arthur, James	\$ 132,906	\$ 162,507	\$ 5,595	\$ 5,619
Baird, Spencer Fullerton	120,303	150,628	5,001	6,699
Barney, Alice Pike, Memorial ...	95,277	120,753	4,009	20,509
Batchelor, Emma F.	119,609	124,906	4,147	71,076
Beauregard, Catherine, Memorial .	150,147	168,742	5,603	52,296
Bergen, Charlotte V.	13,010	12,471	414	1,135
Brown, Roland W.	101,269	115,809	3,845	14,962
Canfield, Frederick A.	136,898	185,656	6,164	293
Casey, Thomas Lincoln	48,096	54,099	1,796	4,717
Chamberlain, Frances Lea	93,548	118,564	3,937	21,629
Cooper Fund for Paleobiology ... Division of Mammals Curators Fund	97,376	96,176	3,127	-0-
Drake Foundation	6,927	7,517	250	4,384
Drouet, Francis and Louderback, Harold B. Fund	622,142	663,548	21,928	95,275
Dykes, Charles, Bequest	208,665	201,355	6,612	27,842
Eickemeyer, Florence Brevoort ...	179,995	198,945	6,605	21,799
Freer, Charles L.	36,102	45,747	1,519	22,738
Grimm, Sergei N.	30,352,306	34,065,689	1,131,040	911,194
Groom, Barrick W.	109,426	106,730	3,544	16,188
Guggenheim, Daniel and Florence .	112,249	107,438	3,117	4,368
Hamilton, James *	427,700	435,876	14,472	32,419
Henderson, Edward P., Meteorite Fund	4,155	4,578	196	1,625
Hewitt, Eleanor G., Repair Fund .	1,257	1,499	50	490
Hewitt, Sarah Cooper	25,783	27,404	910	946
Hewitt, Sarah Cooper	152,431	161,756	5,370	5,666

TABLE 13. Endowment Funds September 30, 1985

	Principal		Income	
	Book value	Market value	Net income	Unexpended balance
Hillyer, Virgil	25,220	28,270	942	10,326
Hitchcock, Albert S.	5,285	6,750	224	151
Hodgkins Fund*	110,615	110,156	5,440	32,961
Hrdlicka, Ales and Marie	183,437	209,764	6,965	12,214
Hughes, Eruce	63,624	80,684	2,679	14,552
Johnson, Seward, Trust Fund for Oceanography	12,563,454	14,168,424	470,417	119,554
Kellogg, Remington, Memorial	67,632	87,385	2,901	8,917
Krama, Nada	10,080	11,029	266	3,528
Lindsey, Jessie H.*	12,546	13,008	1,132	9,630
Maxwell, Max E.	65,193	82,668	2,745	26,591
Milliker, R. Cothout, Memorial ..	760	605	27	51
Mineral Endowment	345,701	371,266	12,327	411
Mitchell, William A.	47,112	50,789	1,686	490
Natural History and Conservation.	91,427	94,872	3,027	-0-
Nelson, Edward William	76,431	93,615	3,108	9,943
Petrocelli, Joseph, Memorial	24,684	31,357	1,041	27,872
Reid, Addison T.*	80,393	88,837	3,146	10,503
Roebling Fund	400,111	505,703	16,790	521
Rollins, Miriam and William	778,231	904,925	29,767	4,490
Sims, George W.	81,495	77,269	2,397	3,077
Sprague Fund	5,077,848	5,411,148	177,995	5,421
Springer, Frank	59,333	75,462	2,505	25,243
Stern, Harold P., Memorial	611,950	647,602	18,647	66,298
Stevenson, John A., Mycological Library	18,421	20,617	665	1,777
Walcott, Charles D. and Mary Vaux, Research	501,419	571,918	18,775	13,322
Walcott Research Fund, Botanical Publications	189,888	255,241	8,249	6,449
Williston, Saruel Wendell Diptera Research	11,968	12,205	390	1,692
Zerbee, Frances Brinckle	7,442	7,963	132	5,137
Subtotal	<u>54,875,407</u>	<u>61,260,250</u>	<u>2,033,955</u>	<u>1,753,100</u>
RESTRICTED PURPOSE-QUASI:				
Armstrong, Edwin James	11,833	12,414	405	-0-
Au Panier Fleuri	71,508	69,826	2,318	2,435
Bacon, Virginia Purdy	331,299	350,461	11,636	22,202
Becker, George F.	571,087	606,582	20,140	-0-
Desautels, Paul E.	43,117	47,863	1,560	-0-
Gaver, Gordon	4,501	4,933	164	2,107
Kacherberg, George P. and Caroline	15,908	18,426	612	1,979
Hanson, Martin Gustav and Caroline R.	34,102	38,348	1,273	6,373
Hunterdon Endowment	11,369,426	12,600,705	418,365	159,995
ICBP Endowment	674,610	674,789	21,910	11,616
ICBP Conservation Endowment	151,657	149,060	4,899	6,520
Johnson, E. N. Fenimore	28,225	28,393	943	3,951
Loeb, Morris	336,549	380,326	12,628	20,010
Long, Annette E. and Edith C. ...	1,830	2,349	78	368
Myer, Catherine Walden	77,509	87,165	2,594	15,797
Noyes, Frank E.	3,812	4,393	146	2,668
Noyes, Pauline Riggs	32,677	32,903	1,092	1,146
Fell, Cornelia Livingston	28,538	32,179	1,068	2,962
Ramsey, Adm. and Mrs. Dewitt Clinton*	1,080,946	1,099,883	37,108	2,073
Rathbun, Richard, Memorial	40,915	46,107	1,531	19,617
Roebling Solar Research	91,587	99,130	3,291	8,622
Ruef, Bertha M.	110,042	110,642	3,674	12,104
Schultz, Leonard P.	29,715	33,353	1,107	27,894
Seidell, Atherton	2,264,347	2,396,497	79,563	296,770
Smithsonian Agency Account	1,132,586	1,158,327	39,368	157
Strong, Julia D.	36,463	43,325	1,438	2,226
Witherspoon, Thomas A., Memorial	894,642	655,912	13,457	23,624
Subtotal	<u>12,072,431</u>	<u>20,624,316</u>	<u>687,573</u>	<u>668,476</u>
Total Restricted Purpose	<u>\$ 72,948,228</u>	<u>\$ 82,044,566</u>	<u>\$ 2,721,528</u>	<u>\$ 2,421,576</u>
TOTAL ENDOWMENT FUNDS	<u>\$127,844,063</u>	<u>\$148,538,051</u>	<u>\$4,757,701**</u>	<u>\$2,522,722</u>

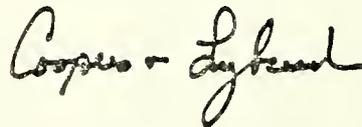
*Invested all or in part in U.S. Treasury or other nonpooled investments.

**Total Return Income Payout; does not include \$265,460 of interest income for investment of unexpended income balances.

To the Board of Regents
Smithsonian Institution

We have examined the statement of financial condition of the Smithsonian Institution as of September 30, 1985 and the related statement of financial activity for the year then ended. Our examination was made in accordance with generally accepted auditing standards and with generally accepted governmental 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 financial statements of the Smithsonian Institution for the year ended September 30, 1984, totals of which are included in the accompanying financial statements for comparative purposes only.

In our opinion, the financial statements for the year ended September 30, 1985, referred to above, present fairly the financial position of the Smithsonian Institution as of September 30, 1985, and the results of its operations and changes in its 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.



1800 M Street, N. W.
Washington, D. C. 20036
December 18, 1985

SMITHSONIAN INSTITUTION
STATEMENT OF FINANCIAL CONDITION
September 30, 1985
(with comparative totals for September 30, 1984)
(thousands of dollars)

	Trust funds	Federal funds	Totals, all funds	Totals, 1984
Assets:				
Cash on hand and in banks (Note 3)	\$ 2,207	\$ 10	\$ 2,217	\$ 3,837
Fund balances with U. S. Treasury (Note 4)	620	72,528	73,148	69,411
Investments (Notes 1 and 5)	192,602	-	192,602	166,806
Receivables (Note 7)	40,169	474	40,643	45,802
Advance payments (Note 8)	452	16,115	16,567	13,832
Merchandise inventory (Note 1)	11,340	-	11,340	8,902
Materials and supplies inventory (Note 1)	-	1,340	1,340	3,266
Amount to be provided for accrued annual leave (Note 1)	-	7,658	7,658	7,124
Prepaid, deferred expense and other (Note 1)	13,400	-	13,400	11,573
Property and equipment (Notes 1 and 9)	<u>34,334</u>	<u>201,355</u>	<u>235,689</u>	<u>208,201</u>
Total assets	<u>\$295,124</u>	<u>\$299,480</u>	<u>\$594,604</u>	<u>\$538,754</u>
Liabilities:				
Accounts payable and accrued expenses, in- cluding interfund pay- able of \$18,940	\$ 34,157	\$ 16,150	\$ 50,307	\$ 45,091
Deposits held in custody for other organizations (Note 2)	3,912	25	3,937	3,084
Accrued annual leave (Note 1)	1,664	7,658	9,322	8,459
Deferred revenue (Note 1)	<u>28,133</u>	<u>-</u>	<u>28,133</u>	<u>24,815</u>
Total liabilities	<u>67,866</u>	<u>23,833</u>	<u>91,699</u>	<u>81,449</u>
Undelivered orders (Note 1)	<u>-</u>	<u>57,425</u>	<u>57,425</u>	<u>62,597</u>
Fund balances (Note 1):				
Trust funds:				
Current:				
Unrestricted general purpose	5,138	-	5,138	5,086
Special purpose	23,832	-	23,832	16,105
Restricted	9,684	-	9,684	9,097
Endowment and similar funds (Note 6)	137,444	-	137,444	118,153
Plant funds (Note 9)	<u>51,160</u>	<u>-</u>	<u>51,160</u>	<u>50,449</u>
Total trust fund balances	<u>227,258</u>	<u>-</u>	<u>227,258</u>	<u>198,890</u>
Federal funds:				
Operating funds	-	177	177	175
Construction funds	-	15,349	15,349	9,427
Capital funds	<u>-</u>	<u>202,696</u>	<u>202,696</u>	<u>186,216</u>
Total federal fund balances	<u>-</u>	<u>218,222</u>	<u>218,222</u>	<u>195,818</u>
Total fund balances	<u>227,258</u>	<u>218,222</u>	<u>445,480</u>	<u>394,708</u>
Total liabilities, un- delivered orders and fund balances	<u>\$295,124</u>	<u>\$299,480</u>	<u>\$594,604</u>	<u>\$538,754</u>

The accompanying notes are an integral part
of these financial statements.

SMITHSONIAN INSTITUTION

STATEMENT OF FINANCIAL ACTIVITY

for the year ended September 30, 1985

(with comparative totals for the year ended September 30, 1984)

(thousands of dollars)

	Trust funds			Federal funds				Totals, 1984
	Totals, trust funds	Current funds	Endowment and similar funds	Totals, federal funds	Operating funds	Construction funds	Capital funds	
Revenue and other additions:								
Appropriations, net	\$ 138,010	\$ -	\$ -	\$ 191,467	\$ 173,141	\$ 18,326	\$ -	\$ 191,467
Auxiliary activities revenue	15,652	138,010	-	-	-	-	-	138,010
Federal grants and contracts	12,658	15,652	-	-	-	-	-	15,652
Investment income (net of \$556,000 for management and custodian fees)	15,745	10,821	-	-	-	-	-	12,658
Net gain on sale of securities and property	9,742	71	13,539	-	-	-	-	15,745
Gifts, bequests and foundation grants	10,167	8,692	173	32,897	-	-	-	9,742
Additions to plant (Note 9)	3,282	3,282	-	137	137	-	-	43,064
Rentals, fees, commissions and other	205,256	176,528	13,712	224,501	173,278	18,326	32,897	3,419
Total revenue and other additions	35,660	35,660	-	114,017	114,017	-	-	429,757
Expenditures and other deductions:	11,058	11,058	-	12,046	12,046	-	-	149,677
Research and educational expenditures	1,575	1,575	-	47,040	47,040	-	-	23,385
Administrative expenditures	114,270	114,270	-	-	-	-	-	48,615
Auxiliary activities expenditures	13,567	-	-	12,404	-	12,404	-	114,270
Acquisition of plant and other (Note 9)	738	-	-	16,417	-	-	-	25,971
Property use and retirements (Note 9)	5	-	-	-	-	-	-	17,155
Retirement of indebtedness	15	-	-	-	-	-	-	5
Interest on indebtedness	176,888	162,563	-	-	-	-	-	15
Total expenditures and other deductions	28,368	13,965	13,712	201,924	173,103	12,404	16,417	378,812
Excess of revenue and other additions over expenditures and other deductions	-	-	-	22,577	175	5,922	16,480	50,945
Transfers among funds - additions (deductions):								
Mandatory principal and interest on notes	-	(20)	-	-	-	-	-	-
Nonmandatory for designated purposes, net (Note 10)	-	(5,579)	5,579	-	-	-	-	-
Total transfers among funds	-	(5,599)	5,579	-	-	-	-	-
Net increase for the year	28,368	8,366	19,291	22,577	175	5,922	16,480	50,945
Returned to U. S. Treasury	-	-	-	(173)	(173)	-	-	(173)
Fund balances at beginning of year	198,890	30,288	118,153	195,818	175	9,427	186,216	394,708
Fund balances at end of year	\$ 227,258	\$ 38,654	\$ 137,444	\$ 218,222	\$ 177	\$ 15,349	\$ 202,696	\$ 445,480
								\$ 394,708

The accompanying notes are an integral part of these financial statements.

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

1. Summary of significant accounting policies

Basis of presentation

These financial statements do not include the accounts of the National Gallery of Art, the John F. Kennedy Center for the Performing Arts or the Woodrow Wilson International Center for Scholars, which were established by Congress within the Smithsonian Institution (the Institution) but are administered under separate boards of trustees.

The federal funds reflect the receipt and expenditures of funds obtained from Congressional appropriations. The accounts of the federal funds have been prepared on the obligation basis of accounting, which is in accordance with accounting principles prescribed by the Comptroller General of the United States as set forth in the Policy and Procedures Manual for Guidance of Federal Agencies. The obligation basis of accounting differs in some respects from generally accepted accounting principles. Under this method of accounting, commitments of the operating fund, such as purchase orders and contracts, are recognized as expenditures, and the related obligations are reported on the balance sheet even though goods and services have not been received as of the date of the financial statements. Such commitments aggregated \$39,147,000 at September 30, 1985. In addition, construction commitments amounted to \$18,279,000 at September 30, 1985.

The trust funds reflect the receipt and expenditure of funds obtained from private sources, federal grants and contracts, investment income and certain business activities related to the operations of the Institution.

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

Fund accounting

To ensure observance of the limitations and restrictions placed on the use of resources available to the Institution, accounts are maintained in accordance with the principles of fund accounting. This procedure classifies resources for control, accounting and reporting purposes into distinct funds established according to their appropriation, 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 self-balancing as follows:

Federal operating funds represent the portion of expendable moneys available for support of Institution operations. Separate subfund groups are maintained for each appropriation as follows: Salaries and Expenses, Special Foreign Currency and Barro Colorado Island Trust Fund.

Federal construction funds represent that portion of expendable funds available for building and facility construction, restoration, renovation and repair. Separate subfund groups are maintained for each appropriation - Construction and Improvements, National Zoological Park, Restoration and Renovation of Buildings, Museum Support Center and the Center for African, Near Eastern, and Asian Cultures (Quadrangle).

Federal capital funds represent the value of those assets of the institution acquired with federal funds and nonexpendable property transfers from government agencies.

Trust current funds, which include unrestricted and restricted resources, represent the portion of expendable funds that is available for

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

support of Institution operations. Amounts restricted by the donor for specific purposes are segregated from other current funds.

Trust 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 allow the expenditure of principal but only under certain specified conditions. 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.

Trust plant funds represent resources restricted for future plant acquisitions and funds expended for plant. Pledges for the construction of the Center for African, Near Eastern, and Asian Cultures are recorded as gifts in the plant fund in the period the pledge document is received.

Investments

All gains and losses arising from the sale, collection or other disposition of investments and property 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

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

funds. Gains and losses on the sale of investments are recognized on the settlement date basis using the specific identification method, whereby the cost of the specific security adjusted by any related discount or premium amortization is the basis for recognition of the gain or loss.

Inventory

Inventories are carried at the lower of cost or market. Cost is determined using the first-in, first-out (FIFO) method, retail cost method (for those inventories held for resale) 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 against 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

The Institution acquires its collections, which include works of art, library books, photographic archives, objects and specimens, through purchase or by donation. In accordance with policies generally followed by museums, no value is assigned to the collections on the statement of financial condition. Purchases for the collections are expensed currently.

Property and equipment

Equipment purchased with federal funds is recorded at cost and is depreciated on a straight-line basis over a period of 10 years. Equipment

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

purchased with trust funds for use by nonincome-producing activities is treated as a deduction of the current fund and a capitalized cost of the plant fund. Depreciation on equipment capitalized in the plant fund is recorded on a straight-line basis over the estimated useful life of 3 to 10 years (see Note 9). Capital improvements and equipment purchased with trust funds and utilized in income-producing activities are capitalized at cost and are depreciated on a straight-line basis over their estimated useful lives of 3 to 10 years.

Buildings and other structures, additions to buildings and fixed equipment purchased with federal funds are recorded at cost and depreciated on a straight-line basis over a period of 30 years. Costs associated with renovating, restoring and improving structures are depreciated over their useful lives of 15 years.

Certain lands occupied by the Institution's buildings were appropriated and reserved by Congress for the Smithsonian and are not reflected in the accompanying financial statements. Property and nonexpendable equipment acquired through transfer from government agencies are capitalized at the transfer price or at estimated amounts, taking into consideration usefulness, condition and market value.

Real estate (land and buildings) purchased with trust funds is recorded 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 the Chesapeake Bay and the Carnegie Mansion, which have been recorded at nominal values. Costs of original building structures and major additions are depreciated on a straight-line basis over their estimated useful lives of 30 years. Costs of renovating, restoring and improving structures are depreciated on a straight-line basis over their estimated useful lives of 15 years (see Note 9).

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

Government grants and contracts

The Institution has a number of grants and contracts with the U. S. Government, which primarily provide for cost reimbursement to the Institution. Grant and contract revenue is recognized when billed.

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.

Annual leave

The Institution's civil service employees earn annual leave in accordance with federal law and regulations. However, only the cost of leave taken as salaries is funded and recorded as an expense. The cost of unused annual leave at year-end is reflected in the accompanying financial statements as an asset and accrued liability in the federal funds.

Annual leave is recorded for trust employees in the trust fund as earned.

2. Related activities

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 \$354,000 (\$281,000 for the trust funds and \$73,000 for the federal funds) for the year ended September 30, 1985. Deposits held in custody for these organizations are \$3,912,000 as of September 30, 1985.

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

The following summarizes the approximate expenditures of these organizations for the fiscal year ended September 30, 1985 as reflected in their individual financial statements and which are not included in the accompanying financial statements of the Institution:

	<u>(\$000s)</u>
Visions Foundation, Inc.	\$ 186
Reading Is Fundamental, Inc.	\$6,617
Woodrow Wilson International Center for Scholars:	
Trust funds	\$4,712
Federal appropriations	\$2,672

3. Cash on hand

Cash on hand - federal funds represents the amount of cash advanced by the U. S. Treasury to imprest fund cashiers for small purchases.

4. Fund balances with U. S. Treasury

The account represents fund balances on the books of the U. S. Treasury available for disbursement.

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

5. Investments

Investments are recorded at cost on a settlement date basis, if purchased, or estimated fair market value at date of acquisition, if acquired by gift. At September 30, 1985, investments were composed of the following:

	Carrying value (\$000s)	Market value (\$000s)
Current funds:		
Certificates of deposit	\$ 12,415	\$ 12,412
Commercial paper	7,585	7,600
U. S. Government and quasi- government obligations	36,067	36,914
Corporate bonds	75	75
Common stock	13	5
Preferred stock	30	30
	<u>56,185</u>	<u>57,036</u>
Endowment and similar funds:		
Money market account	18,526	18,526
Deposit with U. S. Treasury	1,000	1,000
U. S. Government and quasi- government obligations	9,474	10,410
Corporate bonds	3,754	3,266
Common stock	100,203	111,191
Preferred stock	3,384	3,092
	<u>136,341</u>	<u>147,485</u>
Plant funds:		
U. S. Government and quasi- government obligations	26	27
Common stock	50	50
	<u>76</u>	<u>77</u>
	<u>\$192,602</u>	<u>\$204,598</u>

Since October 1, 1982, the deposit with the U. S. Treasury has been invested in U. S. Government securities at a variable yield based on market interest rates.

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

Substantially all 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 per unit market value at the beginning of the month within which the transaction takes place. The unit value as of September 30, 1985 was \$223.18; 295,756 units were owned by endowment, and 364,248 units were owned by quasi-endowment at September 30, 1985.

The following tabulation summarizes changes in relationships between cost and market values of the pooled investments:

	(\$000s)			Market value per unit
	<u>Market</u>	<u>Cost</u>	<u>Net change</u>	
End of year	\$147,300	\$136,156	\$11,144	\$223.18
Beginning of year	\$131,113	\$116,860	<u>14,253</u>	203.92
Decrease in unrealized net gain for the year			(3,109)	-
Realized net gain for the year			<u>13,525</u>	<u>-</u>
Total			<u>\$10,416</u>	<u>\$ 19.26</u>

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

6. Endowment and similar funds

Endowment and similar funds at September 30, 1985 are summarized as follows:

	<u>(\$000s)</u>
Endowment funds, income available for:	
Restricted purposes	\$ 54,875
Unrestricted purposes	<u>4,538</u>
	<u>59,413</u>
Quasi-endowment funds, principal and income available for:	
Restricted purposes	19,073
Unrestricted purposes	<u>58,958</u>
	<u>78,031</u>
Total endowment and similar funds	<u>\$137,444</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) 4-1/2% 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 1985 was \$7.41 per unit to the

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

Restricted and Designated Purpose Endowment Funds and \$5.50 per unit to the Unrestricted General Purpose Endowment Funds; new units were purchased for the Unrestricted General Purpose Endowment Funds with the \$1.91 difference in the total return factor. The total return applied for 1985 was \$2,880,000 to the Restricted and Designated Purpose Endowment Funds and \$1,416,000 to the Unrestricted General Purpose Endowment Funds.

7. Receivables

Receivables at September 30, 1985 included the following:

	<u>(\$000s)</u>
<u>Trust funds</u>	
Accounts receivable, auxiliary activities, net of allowance for doubtful accounts of \$881,000	\$11,899
Interfund receivables due from current funds:	
Endowment and similar funds	822
Plant funds	18,118
Interest and dividends receivable	2,104
Unbilled costs and fees from grants and contracts	1,081
Pledges	6,103
Other	42
	<u>40,169</u>
<u>Federal funds</u>	
Service fees and charges	474
Total, all funds	<u>\$40,643</u>

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

8. Advance payments

Advance payments represent prepayments made to government agencies, educational institutions, firms and individuals for services to be rendered or property or materials to be furnished.

As of September 30, 1985, the Institution had advances outstanding to the U. S. Government of approximately \$13,902,000, principally for construction services to be completed in future fiscal years. The Institution at that date also had advances outstanding to educational institutions amounting to approximately \$1,255,000, principally under the Special Foreign Currency Program.

9. Property and equipment

At September 30, 1985, property and equipment which have been capitalized (see Note 1) are comprised of the following:

	<u>(\$000s)</u>	<u>(\$000s)</u>
<u>Federal</u>		
<u>Capital funds</u>		
Property	286,904	
Equipment	31,004	
Less accumulated depreciation	<u>(116,553)</u>	
Total, federal funds		<u>201,355</u>

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

	<u>(\$000s)</u>	<u>(\$000s)</u>
<u>Trust</u>		
<u>Current funds</u>		
Capital improvements	\$ 4,699	
Equipment	6,828	
Leasehold improvements	235	
Less accumulated depreciation and amortization	<u>(5,340)</u>	
	<u>6,422</u>	
<u>Endowment and similar funds</u>		
Land	<u>239</u>	
<u>Plant funds</u>		
Land and buildings	\$ 31,550	
Equipment	2,985	
Less accumulated depreciation	<u>(6,862)</u>	
	<u>27,673</u>	
Total, trust funds		<u>34,334</u>
Total, all funds		<u>\$ 235,689</u>

Depreciation expense reflected in expenditures of the federal capital funds for 1985 was approximately \$13,181,000.

Depreciation and amortization expense for 1985 for trust funds' income-producing assets amounted to approximately \$1,508,000, which is included in auxiliary activities expenditures in the current funds. Depreciation of trust funds' nonincome-producing equipment and buildings for 1985 amounted to approximately \$738,000.

During 1985, the trust unexpended plant funds were reduced by \$4,000,000 for a pledge deemed not collectible. The balance of the plant fund at September 30, 1985 included \$23,640,000 of trust unexpended plant funds.

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

10. Nonmandatory transfers for designated purposes

The following transfers among trust funds were made for the year ended September 30, 1985 in thousands of dollars:

	Current funds		Endowment and similar funds
	Unrestricted	Restricted	
Portion of investment yield appropriated (Note 6)	\$(1,350)	\$(1,086)	\$2,436
Income added to endowment principal	(4)	(139)	143
Endowment released	-	36	(36)
Appropriated as quasi- endowment	(3,009)	(27)	3,036
Total	\$(4,363)	\$(1,216)	\$5,579

11. Retirement plans

The federal employees of the Institution are covered by the Civil Service Retirement Program. Under this program, the Institution withholds from the gross pay of each federal employee and remits to the Civil Service Retirement and Disability Fund (the Fund) the amounts specified by such program. The Institution contributes 7% of basic annual salary to the Fund. The cost of the plan for the year ended September 30, 1985 was approximately \$6,575,000.

The Institution has separate retirement plans for trust and federal employees. Under the trust fund's plan, both the Institution and 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, 1985 was \$3,330,000. It is the policy of the Institution to fund plan costs accrued currently. There are no unfunded prior-service costs under the plan.

Continued

SMITHSONIAN INSTITUTION
NOTES TO FINANCIAL STATEMENTS

12. 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, which was immaterial for the Institution in 1985.

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 as yet formally sought such dual status.

FY 1986 APPROPRIATION
(\$000s)

Unit	PL 99-177 /1	FY 1986 Congressional Appropriation /2	Reorganizations & Reprogrammings	Grade Target Reduction /3	Revised FY 1986 Appropriation /4
<u>SCIENCE</u>					
Asst. Secretary for Science	564	589	(99) /5	(2)	488
National Museum of Natural History	20,268	21,179	0	(75)	21,104
Astrophysical Observatory	8,349	8,724	0	(28)	8,696
Tropical Research Institute	3,643	3,807	0	(9)	3,798
Environmental Research Center	3,383	3,535	0	(7)	3,528
National Air and Space Museum	8,171	8,538	0	(23)	8,515
National Zoological Park	11,043	11,539	0	(20)	11,519
Subtotal, Science	55,421	57,911	(99)	(164)	57,648
<u>HISTORY AND ART</u>					
Asst. Secretary for History and Art	424	443	(77) /6	(2)	364
National Museum of American History	11,342	11,852	101 /5 /6	(41)	11,912
National Museum of American Art	4,600	4,807	0	(14)	4,793
National Portrait Gallery	3,446	3,601	0	(10)	3,591
Hirshhorn Museum and Sculpture Garden	2,985	3,119	0	(7)	3,112
Center for Asian Art	2,946	3,078	0	(4)	3,074
Archives of American Art	858	897	0	(3)	894
Cooper-Hewitt Museum	903	943	0	(1)	942
National Museum of African Art	2,513	2,626	0	(3)	2,623
Anacostia Neighborhood Museum	852	890	0	(2)	888
Subtotal, History and Art	30,869	32,256	24	(87)	32,193
<u>PUBLIC SERVICE</u>					
Asst. Secretary for Public Service	1,190	1,243	(34) /7	(5)	1,204
Smithsonian Institution Press	1,078	1,126	0	(5)	1,121
Subtotal, Public Service	2,268	2,369	(34)	(10)	2,325
<u>MUSEUM PROGRAMS</u>					
Asst. Secretary for Museum Programs	703	735	(5) /8	(2)	728
Office of the Registrar	95	99	0	0	99
Conservation Analytical Laboratory	1,945	2,033	(5) /8	(9)	2,019
Smithsonian Institution Libraries	4,455	4,655	20 /8 /9	(11)	4,664
Office of Exhibits Central	1,543	1,613	(5) /8	(5)	1,603
Traveling Exhibition Service	363	379	30 /8	(2)	407
Smithsonian Institution Archives	518	541	0	(2)	539
National Museum Act	739	772	0	0	772
Subtotal, Museum Programs	10,361	10,827	35	(31)	10,831

Unit	PL 99-177 /1	FY 1986 Congressional Appropriation /2	Reorganizations & Reprogrammings	Grade Target Reduction /3	Revised FY 1986 Appropriation /4
<u>DIRECTORATE OF INTERNAT'L ACTIVITIES</u>					
<u>SPECIAL PROGRAMS</u>					
American Studies & Folklife Programs	441	461	68 /10	(2)	527
International Environmental Science	681	712	0	(1)	711
Academic & Educational Programs	697	728	0	0	728
Collections Management/Inventory	738	771	(68) /10	(2)	701
Museum Support Center	1,073	1,121	0	0	1,121
John F. Kennedy Center Grants	4,680	4,891	0	0	4,891
Subtotal, Special Programs	333	348	0	0	348
	8,202	8,571	(68)	(3)	8,500
<u>ADMINISTRATION</u>					
	11,435	11,949	131 /5 /7 /11	331	12,411
<u>FACILITIES SERVICES</u>					
Office of Design and Construction	2,009	2,099	0	(11)	2,088
Office of Protection Services	17,365	18,145	0	(13)	18,132
Office of Plant Services	31,013	32,407	(57) /8 /9 /10 /11	(10)	32,340
Subtotal, Facilities Services	50,387	52,651	(57)	(34)	52,560
GRAND TOTAL, SMITHSONIAN	169,384	176,995	0	0	176,995

/1 Balanced Budget and Emergency Deficit Control Act of 1985 (4.3 percent of FY 1986 Congressional Appropriation).

/2 Reductions of \$250 thousand for scientific equipment and \$217 thousand for automation have been distributed as follows: Equipment - National Museum of Natural History (\$110,000); Tropical Research Institute (\$50,000); and Environmental Research Center (\$90,000). Automation - National Museum of American History (\$58,000); National Museum of American Art (\$28,000); National Portrait Gallery (\$20,000); Hirshhorn Museum and Sculpture Garden (\$23,000); Sackler Gallery (\$18,000); Archives of American Art (\$20,000); Cooper-Hewitt Museum (\$25,000); and National Museum of African Art (\$25,000).

/3 Reflects the distribution of the Office of Management and Budget Grade Target Reduction for FY 1986. The full reduction of \$373 thousand had been reflected in the Administration line-item in the FY 1986 request.

/4 Reflects FY 1986 Base Appropriation shown on pages 12 and 13 of this budget request.

- /5 Permanent reprogramming of 3 positions from the Office of Educational Research to other educational and support activities (National Museum of American History (\$24,000) and Administration (\$75,000)).
- /6 Permanent reprogramming of an historian from Joseph Henry Papers to the National Museum of American History.
- /7 Permanent reprogramming of a position from the Assistant Secretary for Public Service to Administration.
- /8 Permanent reprogrammings from several Museum Program bureaus and offices to the Traveling Exhibition Service to cover a small base shortage.
- /9 Permanent reprogramming of a position for a librarian from the Office of Horticulture to the Smithsonian Institution Libraries.
- /10 The administration of the Special Foreign Currency Program was transferred from the Office of Fellowships and Grants to the Directorate of International Activities.
- /11 Permanent reprogramming of one position from the Office of Plant Services to Administration.

SMITHSONIAN INSTITUTION LIBRARIES



3 9088 01683 2966