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SMITHSONIAN INSTITUTION

Fiscal Year 1985

Justification of Estimates of Appropriations
To the Office of Management and Budget



ADMINISTRATIVELY CONFIDENTIAL

(Information not to be released until after the President's
Budget is submitted to the Congress in January 1984.)

September 1983

SMITHSONIAN INSTITUTION

Fiscal Year 1985

Justification of Estimates of Appropriations
To the Office of Management and Budget

SMITHSONIAN INSTITUTION

FISCAL YEAR 1985 ESTIMATES OF APPROPRIATIONS

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SMITHSONIAN INSTITUTION

BOARD OF REGENTS

Under Separate Boards of Trustees:

JOHN F. KENNEDY CENTER
FOR THE PERFORMING ARTS

NATIONAL GALLERY OF ART

WOODROW WILSON
INTERNATIONAL CENTER
FOR SCHOLARS

THE SECRETARY*

UNDER SECRETARY*

AUDITOR

BOARDS AND COMMISSIONS

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

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

Women's Committee of the
Smithsonian Associates

TREASURER*

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

GENERAL COUNSEL*

Coordinator
of
PUBLIC INFORMATION*
Office of Congressional Liaison
Office of Public Affairs
Office of Special Events

MEMBERSHIP AND DEVELOPMENT*

Development Office
Smithsonian National Associates
Program
Smithsonian Resident Associate
Program

OFFICE OF PUBLIC SERVICE*

Office of Elementary and Secondary
Education
Office of Lifelong Programs
Office of Smithsonian Symposia and
Seminars
Office of Telecommunications
Smithsonian Institution Press
Smithsonian Magazine
Visitor Information and Associates*
Reception Center

Assistant Secretary for SCIENCE*

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

Assistant Secretary for HISTORY & ART*

Anacostie Neighborhood Museum
Archives of American Art
Center for Asian Art
Freer Gallery of Art
Sackler Gallery of Art
Cooper-Hewitt Museum
Hirshhorn Museum and Sculpture
Garden
Joseph Hurty 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 MUSEUM PROGRAMS*

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

Assistant Secretary for ADMINISTRATION*

Contracts Office
International Exchange Service
Management Analysis Office
Office of Equal Opportunity
Office of Facilities Services
Office of Design and Construction
Office of Plant Services
Office of Production Services
Office of Information Resource
Management
Office of Personnel Administration
Office of Printing and Photographic
Services
Office of Programming and Budget
Office of Supply Services
Travel Services Office

SMITHSONIAN INSTITUTION
FY 1985 Budget Request
 (000's)

Summary

| <u>BUDGET CATEGORY</u> | <u>FY 1984 CONGRESSIONAL REQUEST</u> | <u>OMB MID-SESSION TARGET</u> | <u>FY 1985 REQUEST</u> |
|------------------------------|--|---------------------------------------|----------------------------|
| Salaries and Expenses | \$ 154,354 | \$ 159,123 | \$ 171,748 |
| Foreign Currency | 9,040 | 9,000 | 10,750 |
| Construction | | | |
| National Zoological Park | 3,500 | 3,500 | 4,250 |
| Restoration and Renovation | 9,000 | 9,000 | 16,755 |
| General Post Office Building | -- | -- | 3,500 |
| TOTAL | <u>\$ 175,894</u> | <u>\$ 180,623</u> | <u>\$ 207,003</u> |

INTRODUCTION

The Smithsonian Institution's FY 1985 budget request to the Office of Management and Budget represents a new focus on the efficient use of existing resources and a more realistic recognition of the essential additional resources required to fulfill the Institution's mandate for the increase and diffusion of knowledge. These needs are also required in line with the Institution's role as a national repository for collections that reflect the heritage and traditions of this country, with the corresponding obligation to provide adequate care and facilities for the preservation of these items.

The current assessment of needs cuts across all programmatic lines and organizational units. The budget was formulated initially by program managers and administrators working within the context of broad goals for FY 1985 and the future as expressed by the Secretary. Subsequent reviews by bureau and office directors and ultimately the Secretary and his Executive Committee established the Institutional priorities and requisite budget levels which are reflected in this document. Final review and approval of the Institution's budgets for Federal as well as Nonappropriated Trust funds and the Institution's Five-Year Prospectus for FY 1985 - FY 1989 will be topics of the September 19, 1983 meeting of the Board of Regents.

ORGANIZATION AND GOALS

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 81 million art objects, natural history specimens and artifacts. These collections are displayed for the enjoyment and education of visitors and are available for research by the staff of the Institution and by hundreds of visiting students, scientists and historians each year. Other significant study efforts draw their data and results directly from terrestrial, marine and astrophysical observations at various Smithsonian installations.

The Smithsonian complex presently consists of 12 exhibition buildings in Washington, D.C. and New York City in the fields of science, history, technology and art; a zoological park in Washington, 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 radiation biological laboratory in Rockville, Maryland; an oceanographic research facility at Link Port, Florida; astrophysical stations in Massachusetts and Arizona, and elsewhere; and supporting administrative, laboratory and storage areas.

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 81 million art, technological and cultural history objects and natural history specimens and artifacts. The responsibility involves the acquisition, documentation and conservation of these materials along with detailed record keeping or cataloguing, regular inventories and storage or display in secure and atmospherically controlled environments.

- Basic research: Increase of knowledge is accomplished through basic research. As an independent Federal establishment, the Smithsonian conducts a broad range of scientific and scholarly research, often in cooperation with other institutions, universities and government agencies.

- 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 in the Smithsonian museums, as well as in institutions elsewhere and in private homes throughout the nation.

- 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 1.9 million Resident and National Associates. At any given time, there are likely to be two to three hundred visiting scholars, scientists and students working throughout the Institution in various collections, laboratories and offices.

Finally, as another educational endeavor, the Institution's Office of Museum Programs offers assistance to museums across the country and abroad by conducting museum training courses, producing and distributing audiovisual programs on conservation principles and techniques and by awarding grants for professional museum training and research.

--Collections 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 seeks to provide special acquisitions funds for the museums. Some Federal funds are requested each year to permit regular planned purchases.

In order to carry out these functions, administration and facilities services units of the Institution provide the required support. The Smithsonian has the responsibility for the maintenance, operation and protection of a large complex of museum and gallery buildings and other facilities. The Institution also provides architectural and engineering services for major repairs, alterations and improvements to the physical plant. As described in the Construction, Renovation and Restoration section of this budget, the Institution has significant and increasing needs for the physical plant itself.

FY 1985 BUDGET PRIORITIES

The following information summarizes in narrative fashion the programs and plans that constitute the Institution's highest priorities for FY 1985 as reflected in this request to the Office of Management and Budget.

I. Salaries and Expenses

The Institution's request for \$3,309,000 in uncontrollable increases must cover legislated pay increases, higher utilities costs and funds to offset the effects of inflation in nonsalary areas, as computed using OMB guidelines. Additional staffing and equipment funds will bring the Museum Support Center to near full operational strength, as the movement of collections commences in earnest. Necessary operating funds and positions are important for activities which will occupy the Quadrangle, scheduled to open in early 1986.

Several units require salary and benefits funds to cover deficiencies which have developed as a result of Institutional needs. Additional staff and base funds are essential to address collections management concerns. Essential equipment needs must be met in several Science bureaus in order to preserve the Institution's research capabilities, as well as providing the flexibility for continuance of existing and implementing important new research efforts.

Security of the collections and facilities of the Institution is a primary concern as the Institution continues to upgrade its security systems with necessary equipment and personnel. The Institution also is embarking on an extensive program to take advantage of state-of-the-art in computer technology in order to improve collections, scientific and financial information management requirements.

Several bureaus are dedicating resources towards exhibitions commemorating the bicentennial of the signing of the United States Constitution.

Increased attention to facilities care and maintenance necessitates a request for staffing level and base resources commensurate with the requirements of the Institution's diverse physical plant. Administrative support requirements, particularly in programs relating to equal opportunity and upward mobility, are essential.

The Smithsonian continues an active program of exhibitions and performances, both through the Smithsonian Institution Traveling Exhibition Services and new exhibition programs at several museums. An adjunct to this activity are the educational services and experiences provided both for visitors and visiting scientific staff.

Equally as important as preservation of the collections is the Institution's obligation to augment current holdings through thoughtful and planned additions to the collections. Three bureaus require supplemental acquisition funds to enable them to fill significant gaps in their collections and to remain competitive due to rapidly escalating prices.

Finally three significant scientific projects are proposed that will enable the Institution to compare the resultant data and findings with those of other Government agencies.

II. Museum Programs and Related Research (Special Foreign Currency Program)

For FY 1985, the Smithsonian requests \$10,750,000 equivalent in foreign currencies which have been determined by the Treasury Department to be in excess of the normal needs of the United States. The Smithsonian 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 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 (\$4,000,000); to bring to the desired level of \$10,000,000 equivalent in Indian rupees the forward-funded reserve in support of future programs of the American Institute of Indian Studies (\$4,750,000); and for the third and final increment of the United States contribution to the international effort to restore and preserve the ancient city of Moenjodaro in Pakistan (\$2,000,000).

III. Construction, Restoration and Renovation

Prudent facilities management continues to be one of the Institution's highest priorities. Consistent with its responsibility and commitment to maintaining museum and other buildings and providing for future facility needs, the Smithsonian is embarking upon a carefully planned, integrated improvements program involving restoration, renovation and repair of existing facilities and the planning, design and construction of additional facilities essential to future programmatic needs.

A. Restoration and Renovation of Buildings

The Restoration and Renovation of Buildings (R&R) account is used to finance repairs, alterations and improvements to Smithsonian facilities which are comprised of well 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, and conservation and education in Panama and on the

Chesapeake Bay near Annapolis, 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 well over 100 years old.

The Smithsonian's request for \$16,755,000 in FY 1985, coupled with ongoing planning of major restoration and renovation initiatives in subsequent years, illustrates the Institution's commitment toward strengthening preventive maintenance and improvement programs to better the condition of existing facilities and to a thorough and creative process of planning for and meeting future facilities requirements. Consequently, although funds are sought in this budget to continue a wide range of essential repair, alteration and improvement projects, major emphasis will be placed in this and subsequent years on improving heating, ventilating and air conditioning systems at facilities on and off the Mall; completion of design and installation of fire detection and suppression systems; continuation of work consistent with master plans developed for off-Mall facilities; and the planning, design, renovation, and construction of facilities to meet present and future collections storage, exhibition and other programmatic needs of the Institution.

B. Construction and Improvements, National Zoological Park

This request for \$4,250,000 is for use at the National Zoological Park for repairs, alterations and improvements to existing facilities including exhibits; to prepare plans and specifications for construction; and to perform renovations, restorations and new construction for implementing the Master Plan approved by the Commission of Fine Arts and the National Capital Planning Commission in FY 1973. The Zoo's facilities include 168 acres in the Rock Creek Valley of Washington, D.C., and a 3,150-acre Conservation and Research Center located near 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 the proposed work. In such cases, accomplishment of the work by other means, such as the purchase of supplies, materials and equipment and/or 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.

C. Construction: General Post Office Building

On May 24, 1983, the Senate Committee on Environment and Public Works, which has oversight responsibility for GSA, heard testimony from the Smithsonian and the United States International Trade Commission (principal occupancy for the past 60 years of the building) on the respective agencies' interests in the General Post Office building which would be used by the Smithsonian for expanded public activities of the National Museum of American Art, the National Portrait Gallery and the Archives of American Art. It seems clear that while the Commission would like to remain in the building because of its convenience and historical association, the Commission is very concerned that long-overdue major repairs be made, and it recognizes that the building is too small to meet all of its needs (about 15 percent of present staff is housed elsewhere). On June 23, the Committee recommended, and on June 29, the Senate passed S. 1287, the FY 1984 General Service Administration authorization, which contains an amendment directing the Administrator to transfer the building to the Smithsonian without reimbursement, contingent on GSA securing suitable quality space for the Commission's relocation. Action on the transfer is anticipated in the House during the fall of 1983. Funds are necessary in the amount of \$3,500,000 for FY 1985 to accomplish initial planning and design of needed improvements with the balance of \$31,500,000 for renovation needed in FY 1986.

NONAPPROPRIATED SOURCES OF FUNDING

In addition to the support provided by Federal appropriations, the Institution also receives Nonappropriated Funds used 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.

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

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 whose costs are primarily 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 Trust funded activities such as the Visitors Information and Associates' Reception Center, the Cooper-Hewitt Museum, 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 are primarily funded from short-term investment income and net proceeds from food service concessions, museum shops, sales of Smithsonian books, records and other products based on designs and objects in the collections, and from the Resident and National Associate Programs (including Smithsonian magazine).

2. Special Purpose - Certain bureaus have income-producing activities, the largest of which is 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.

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 1985 allotment, of \$1.9 million) 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 1985 allotment of, \$700,000). The final planned amount of \$2.7 million in unrestricted Trust funds will be provided for the Quadrangle construction project in FY 1984. This is in addition to the approximately \$6.8 million in unrestricted Trust funds that has already been set aside. The total of \$9.5 million will be part of the dollar for dollar match with appropriated funds. A total of \$2.5 million has been set aside for the Museum Support Center, \$1.75 million--from the sale of the Belmont Conference Center--for construction and \$750,000 for Conservation Analytical Laboratory equipment.

Although not reflected in the individual bureaus expenses at this time, the Special Purpose category also includes awards from the Institution's Collections Acquisition, Scholarly Studies and Education Program, the Fluid Research Program, and the Smithsonian Society Awards Program.

This last category has taken on an increasing significance over the last several years. The most substantial continuing commitment under this category is the \$2.2 million (increased from \$2.0 million in FY 1982) annual allocation for the

Institution's Collections Acquisition, Scholarly Studies and Education Program, first approved by the Board of Regents in FY 1978. Of the \$2.2 million, an amount of \$1.1 million is available annually for purchase of objects of outstanding importance to the collections.

During FY 1983, the Collections Acquisition portion of the Program was used to purchase a wide variety of objects throughout the Smithsonian museums. The National Museum of Natural History/Museum of Man used \$79,000 to purchase the Green River Shale fossil collection. Other acquisitions are as follows: \$50,000 for a matched set of six 18th-century Windsor chairs by the National Museum of American History; \$450,000 for Thomas Cole's painting, "The Subsiding of the Waters of Deluge," by the National Museum of American Art; \$40,000 for a set of Frank Lloyd Wright's drawings by the Cooper-Hewitt Museum; and \$375,000 for a Yombe Wooden Sculpture from Zaire by the National Museum of African Art. Each of these important acquisitions was supplemented by varying amounts of outside contributions. An additional amount of \$550,000 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. The remaining \$550,000 of the \$2.2 million available under this Program is allocated to conduct a wide range of education programs of benefit to the public such as a collaborative educational effort between the National Museum of Natural History/Museum of Man, the National Zoological Park and the National Museum of African Art aimed at delivering programs of those museums to elderly and handicapped groups. This effort was broadened to a national scope through publications and training seminars for museum professionals from around the country who were interested in offering such programs to local audiences that were unable to visit their respective museums.

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 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 and education; and because of its ability to respond quickly to certain kinds of needs.

SALARIES AND EXPENSES

SMITHSONIAN INSTITUTION

SALARIES AND EXPENSES

SUMMARY OF REQUESTED INCREASES

(\$000's)

FY 1985

| | |
|----------------------------------|------------------|
| OMB Mid-Session FY 1985 Target | <u>\$159,123</u> |
| FY 1984 Congressional Request | \$154,354 |
| FY 1985 Requested Increases: | |
| Uncontrollable Increases | 3,309 |
| New Facilities Related Increases | 5,639 |
| Other Increases | <u>8,446</u> |
| FY 1985 Requested Base | <u>\$171,748</u> |

The Smithsonian Institution's FY 1985 Salaries and Expenses increases have been categorized into 16 functional elements which are presented on the following page in priority order, as determined by Smithsonian management during the summer budget formulation process. Following the ranking sheet is an index which briefly describes each functional package and provides a reference to the detailed budget justifications contained within each activity's presentation. Individual bureau requests within each functional category are not ranked. The individual presentations, grouped by major program activity (i.e., Science, History and Art), consist of a resource chart, an abstract summary, a program statement, and, if applicable, a detailed justification for requested increases. A description of nonappropriated Trust fund activity follows where appropriate.

FY 1985 Salaries and Expenses

Ranking of Increases

| <u>Functional Category</u> | <u>Workyears</u> | <u>Amount (000's)</u> |
|--|------------------|---------------------------|
| FY 1984 Base | 3,678 | \$154,354 |
| 1. Uncontrollables | | |
| -Necessary Pay | - | \$ 1,630 |
| -Utilities | - | 179 |
| -Inflation | - | 1,500 |
| Total | - | \$ 3,309 |
| 2. Museum Support Center | | |
| -Operations | 27 | \$ 925 |
| -Equipment | - | 3,605 |
| Total | 27 | \$ 4,530 |
| 3. Quadrangle Operations | 21 | 1,109 |
| 4. Base Deficiency | - | 263 |
| 5. Collections Management | 17 | 958 |
| 6. Research Equipment Replacement and Acquisition | - | 1,210 |
| 7. Research Support | 7 | 690 |
| 8. Security and Occupational Health | 17 | 1,107 |
| 9. Automation | 8 | 649 |
| 10. Constitution Bicentennial | - | 175 |
| 11. Buildings and Facilities Management | 30 | 1,455 |
| 12. General Administration | 3 | 320 |
| 13. Exhibitions and Performances | 1 | 655 |
| 14. Education and Public Orientation | 1 | 329 |
| 15. Collections Acquisition | - | 135 |
| 16. Basic Research | 11 | 500 |
| | <hr/> | <hr/> |
| FY 1985 Requested Base | 3,821 | \$171,748 |

Functional Category Index

| <u>Page</u> | <u>Category</u> | <u>Workyears</u> | <u>Amount (000's)</u> |
|---|--|------------------|---------------------------|
| <u>1. Uncontrollables</u> | | | |
| <p>Additional funds are sought to finance costs that are beyond the control of the Institution. These increases result from pay legislation; prevailing practices of wage setting; rate changes affecting utilities, postage, rent, and communication costs; and the impact of inflation on the cost of services, equipment and supplies.</p> | | | |
| 18 | Necessary Pay | - | \$1,630 |
| 18 | Utilities | - | 179 |
| 18 | Inflation | - | 1,500 |
| | Total | - | \$3,309 |
| <u>2. Museum Support Center</u> | | | |
| <p>The request for FY 1985 would bring the operating functions of the Museum Support Center to full working level with the exception of the Conservation Analytical Laboratory. A level of \$7,500,000 would assure the requisite procurement of collections storage equipment.</p> | | | |
| 155 | Operations | 27 | \$ 925 |
| 155 | Equipment | - | 3,605 |
| | Total | 27 | \$4,530 |
| <u>3. Quadrangle Operations</u> | | | |
| <p>For FY 1985, initial incremental operating funds are requested for these units that will occupy the Quadrangle.</p> | | | |
| 162 | National Museum of African Art | 7 | \$ 210 |
| 162 | Sackler Gallery of Art | 8 | 451 |
| 162 | International Conference Center | 2 | 100 |
| 162 | Smithsonian Traveling Exhibition Service | 3 | 45 |
| 162 | Smithsonian Institution Libraries | 1 | 303 |
| | Total | 21 | \$1,109 |

Functional Category Index

| <u>Page</u> | <u>Category</u> | <u>Workyears</u> | <u>Amount (000's)</u> |
|---|---|------------------|---------------------------|
| <u>4. Base Deficiency</u> | | | |
| This grouping consists of funds to rectify base deficiencies in four units, most significantly in the Museum of African Art and also in SITES, the Office of Public Affairs and the Office of Personnel Administration. | | | |
| 98 | National Museum of African Art | - | \$123 |
| 128 | Smithsonian Traveling Exhibition Service | - | 37 |
| 168 | Office of Public Affairs | - | 58 |
| 168 | Office of Personnel Administration | - | 45 |
| | Total | - | \$263 |
| <u>5. Collections Management</u> | | | |
| This grouping includes resources to fund important collections management and conservation needs at several bureaus. | | | |
| 53 | National Air and Space Museum | - | \$ 45 |
| 58 | National Zoological Park | - | 50 |
| 65 | National Museum of American History | 5 | 127 |
| 72 | National Museum of American Art | - | 80 |
| 77 | National Portrait Gallery | 2 | 87 |
| 82 | Hirshhorn Museum and Sculpture Garden | - | 50 |
| 90 | Archives of American Art | 1 | 50 |
| 93 | Cooper-Hewitt Museum | 9 | 269 |
| 121 | Smithsonian Institution Libraries | - | 200 |
| | Total | 17 | \$958 |
| <u>6. Research Equipment Replacement and Acquisition</u> | | | |
| Funds are requested in this category for replacement of worn and outdated equipment and for purchase of new equipment in support of the research programs of four Science bureaus. | | | |
| 26 | National Museum of Natural History/MOM | - | \$ 260 |
| 35 | Smithsonian Astrophysical Observatory | - | 760 |
| 49 | Smithsonian Environmental Research Center | - | 140 |
| 58 | National Zoological Park | - | 50 |
| | Total | - | \$1,210 |

Functional Category Index

| <u>Page</u> | <u>Category</u> | <u>Workyears</u> | <u>Amount (000's)</u> |
|--|---|------------------|---------------------------|
| <u>7. Research Support</u> | | | |
| Funds are sought in this package for important and necessary enhancements to research endeavors at the Institution. | | | |
| 35 | Smithsonian Astrophysical Observatory | - | \$150 |
| 43 | Smithsonian Tropical Research Institute | - | 50 |
| 49 | Smithsonian Environmental Research Center | 3 | 80 |
| 53 | National Air and Space Museum | 4 | 150 |
| 58 | National Zoological Park | - | 50 |
| 121 | Smithsonian Institution Libraries | - | 210 |
| | Total | <u>7</u> | <u>\$690</u> |
| <u>8. Security and Occupational Health</u> | | | |
| This grouping continues the upgrading of collection and physical security and also requests additional security personnel to meet minimum needs and provide funds for the occupational health program. | | | |
| 178 | Office of Protection Services | 17 | \$1,107 |
| <u>9. Automation</u> | | | |
| The FY 1985 request consists of funds for peripheral equipment, computer usage charges, data entry services and the necessary staffing to insure proper data base management. | | | |
| 26 | National Museum of Natural History/MOM | - | \$100 |
| 35 | Smithsonian Astrophysical Observatory | 1 | 50 |
| 43 | Smithsonian Tropical Research Institute | 1 | 55 |
| 58 | National Zoological Park | - | 25 |
| 65 | National Museum of American History | 1 | 100 |
| 72 | National Museum of American Art | 1 | 25 |
| 121 | Smithsonian Institution Libraries | - | 50 |
| 168 | Office of Personnel Administration | 4 | 244 |
| | Total | <u>8</u> | <u>\$649</u> |
| <u>10. Constitution Bicentennial</u> | | | |
| Initial resources are requested for events and exhibits commemorating the 200th anniversary of the United States Constitution. | | | |
| 65 | National Museum of American History | - | \$100 |
| 143 | Office of Smithsonian Symposia and Seminars | - | 75 |
| | Total | <u>-</u> | <u>\$175</u> |

Functional Category Index

| <u>Page</u> | <u>Category</u> | <u>Workyears</u> | <u>Amount (000's)</u> |
|--|---|------------------|---------------------------|
| 11. <u>Buildings and Facilities Management</u> | | | |
| Funding is requested for essential maintenance supplies, adequate staffing to handle day-to-day service needs, additional engineering and cost estimating staff due to increased Restoration and Renovation projects and contractual funds for architectural/engineering services. | | | |
| 176 | Office of Design and Construction | 2 | \$ 155 |
| 184 | Office of Plant Services | 28 | 1,300 |
| | Total | 30 | \$1,455 |
| 12. <u>General Administration</u> | | | |
| Additional FY 1985 resources are requested for requisite support for certain administrative needs as well as for enhancement of the Institution's Equal Opportunity and Upward Mobility programs. | | | |
| 121 | Smithsonian Institution Libraries | - | \$ 40 |
| 168 | Office of Equal Opportunity | 3 | 230 |
| 168 | Office of Supply Services | - | 50 |
| | Total | 3 | \$ 320 |
| 13. <u>Exhibitions and Performances</u> | | | |
| Necessary funding is requested to improve the exhibitions capabilities of several units. | | | |
| 26 | National Museum of Natural History/MOM | - | \$290 |
| 82 | Hirshhorn Museum and Sculpture Garden | - | 100 |
| 93 | Cooper-Hewitt Museum | 1 | 105 |
| 103 | Anacostia Neighborhood Museum | - | 40 |
| 128 | Smithsonian Traveling Exhibition Service | - | 120 |
| | Total | 1 | \$655 |
| 14. <u>Education and Public Orientation</u> | | | |
| Funding for an international symposium is requested, as well as support for enhancements to visitor services, the intern program, the Native American Program, and an increase in National Museum Act funding. | | | |
| 105 | Visitor Information and Associates' Reception Center | 1 | \$ 60 |
| 112 | Office of Museum Programs | - | 25 |
| 135 | National Museum Act | - | 214 |
| 143 | Office of Smithsonian Symposia and Seminars | - | 30 |
| | Total | 1 | \$ 329 |

Functional Category Index

| <u>Page</u> | <u>Category</u> | <u>Workyears</u> | <u>Amount (000's)</u> |
|-------------|---|------------------|---------------------------|
| 15. | <u>Collections Acquisition</u> | | |
| | Additional acquisition resources are requested to provide three units with a reasonable level of funding. | | |
| 77 | National Portrait Gallery | - | \$ 30 |
| 82 | Hirshhorn Museum and Sculpture Garden | - | 60 |
| 98 | National Museum of African Art | - | 45 |
| | Total | - | <u>\$135</u> |
| 16. | <u>Basic Research</u> | | |
| | Base funding is requested for specific research projects that will provide basic research data of value to other Government agencies. | | |
| 26 | National Museum of Natural History/MOM | 6 | \$350 |
| 43 | Smithsonian Tropical Research Institute | 5 | 150 |
| | Total | <u>11</u> | <u>\$500</u> |

Smithsonian Institution
FY 1985 Uncontrollable Increases
Salaries and Expenses

Additional funds are sought to finance costs that are beyond the control of the Institution. These increases generally result from law; prevailing practices in wage setting; changes in utilities, postage and communication costs; anticipated higher rental costs; and inflation in the cost of supplies, equipment and services. A total of \$3,309,000 is requested for these uncontrollable increases:

| | |
|---|------------------|
| Necessary Pay and Related Benefits..... | \$1,630,000 |
| Utility, Postage and Communications Rate Increases..... | 179,000 |
| Inflation..... | <u>1,500,000</u> |
| TOTAL | \$3,309,000 |

NECESSARY PAY AND RELATED BENEFITS - An amount of \$1,630,000 is required for personnel compensation and benefits for the projected higher costs in FY 1985 of FY 1984 staff. These increases are provided to employees as a result of within-grade and Merit Pay increases (\$1,630,000). Costs are calculated by a position-by-position analysis taking into consideration workyears authorized by the Office of Management and Budget, savings from turnover, and from filling vacancies at lower grades when possible. For example, approximately one workyear of approved employment is lost for every \$28,000 that must be applied to these costs from funds currently available for salaries and benefits. Moreover, if other object class funds must be applied to these costs, employees are left without adequate supplies and equipment to sustain current level programs and functions.

The additional personnel costs are attributed to the following externally imposed factors:

Within-grade Step and Merit Pay Increases - Necessary pay funding of \$1,630,000 is required in FY 1985 for within-grade step and Merit Pay increases. For General Schedule employees, these increases are required by 5 U.S.C. 5335. Wage employees are covered by law and prevailing practice, and increases include the part-year cost of new actions scheduled to occur in FY 1985, as well as the cost of annualizing step increases occurring in FY 1984.

The General Schedule portion of the request amounts to \$1,260,000. There are approximately 2,500 General Schedule employees of whom approximately 1,500 are scheduled to receive within-grade increases. The Wage portion amounts to \$240,000. There are approximately 900 Wage employees of whom approximately 300 are scheduled to receive within-grade increases.

The Merit Pay portion of the request amounts to \$130,000. These increases, required under the provisions of the Civil Service Reform Act of 1978, were calculated following guidelines issued by the Office of Personnel Management (OPM). The amount requested for Merit Pay replaces the amount for within-grade increases that would have been paid to Merit Pay employees under the conventional step system and the amount for quality step increases that OPM estimates would have been paid to Merit Pay employees. Funding for the annual comparability adjustment for Merit Pay employees will be included in the Smithsonian's FY 1985 pay supplemental request.

UTILITY, POSTAGE AND COMMUNICATIONS - Currently, a base of \$14,021,000 is available to cover the costs of electricity, steam, gas, fuel oil, water, postage and communications. An additional \$179,000 is sought in FY 1985 to cover the projected increased cost of these items. Utilities costs associated with the Museum Support Center are addressed in the Special Programs section of this budget. The following table depicts actual and anticipated use and costs of the components between FY 1982 and FY 1985 and summarizes the projected base shortage or surplus in each component between the FY 1984 appropriation and the estimated costs for FY 1985.

ANALYSIS OF UTILITIES COSTS
FY 1982 - FY 1985

| <u>Fiscal Year</u> | <u>ELECTRICITY</u> | | | <u>STEAM</u> | | | <u>GAS</u> | | |
|--------------------|-------------------------------|----------------|---------------|---------------------------|--------------------|---------------|----------------------------------|--------------------|---------------|
| | <u>Use</u> | <u>Unit</u> | <u>Cost</u> | <u>Use</u> | <u>Unit</u> | <u>Cost</u> | <u>Use</u> | <u>Unit</u> | <u>Cost</u> |
| | <u>Millions</u> | <u>Average</u> | <u>\$000s</u> | <u>Millions</u> | <u>Average Per</u> | <u>\$000s</u> | <u>Millions</u> | <u>Average</u> | <u>\$000s</u> |
| | <u>of KWH</u> | <u>per KWH</u> | | <u>of lbs.</u> | <u>1,000 lbs.</u> | | <u>of Cu. Ft.</u> | <u>Per Cu. Ft.</u> | |
| 1982 Actual | 83.4 | .0594 | \$4,956 | 222.2 | 14.28 | \$3,173 | .962 | .5883 | \$ 566 |
| 1983 Est. Act. | 85.0 | .0656 | 5,577 | 196.4 | 14.28 | 2,805 | .899 | .6674 | 600 |
| 1984 Estimate | 86.0 | .0673 | 5,784 | 215.0 | 14.28 | 3,070 | 1.025 | .7024 | 720 |
| 1985 Estimate | 86.0 | .0693 | 5,958 | 215.0 | 14.48 | 3,070 | 1.025 | .8585 | 880 |
| 1985 Estimate | | | 5,958 | | | 3,070 | | | 880 |
| 1984 Base | | | <u>-5,784</u> | | | <u>-3,375</u> | | | <u>-880</u> |
| | Base Shortage, Electricity | | <u>\$ 174</u> | Base Surplus, Steam | | <u>\$ 305</u> | Base Shortage, Gas | | <u>\$-0-</u> |
| | <u>Telephone Costs</u> | | | <u>Postage Costs</u> | | | <u>Fuel Oil/Water Costs</u> | | |
| | <u>\$000s</u> | | | <u>\$000s</u> | | | <u>\$000s</u> | | |
| 1982 Actual | \$1,740 | | | \$1,058 | | | \$194 | | |
| 1983 Est. Act. | 2,211 | | | 1,120 | | | 230 | | |
| 1984 Estimate | 2,450 | | | 1,181 | | | 301 | | |
| 1985 Estimate | 2,760 | | | 1,181 | | | 351 | | |
| 1985 Estimate | 2,760 | | | 1,181 | | | 351 | | |
| 1984 Base | <u>-2,500</u> | | | <u>-1,181</u> | | | <u>-301</u> | | |
| | Base Shortage, Telephone | | <u>\$ 260</u> | Base Shortage, Postage | | <u>\$ -0-</u> | Base Shortage, Fuel Oil/Water | | <u>\$ 50</u> |

The projected steam surplus is attributable to the declining world price of oil and to energy conservation efforts at the Smithsonian which have contributed to the Institution's ability to maintain a relatively constant level of energy consumption since FY 1982. For electricity, increased costs are anticipated due to a 7.5 percent

rate increase granted the Potomac Electric Power Company in January 1983 by the District of Columbia Public Service Commission and a proposed 15 percent rate increase expected to be granted in January FY 1985. The increase in electrical consumption between FY 1982 and FY 1983 is attributable primarily to a reorganization effected in FY 1983 which consolidated utilities costs of off-Mall bureaus including the Cooper-Hewitt Museum in New York City, the Smithsonian Tropical Research Institute in Panama, and the Smithsonian Astrophysical Observatory in Amado, Arizona. For fuel oil/water, increased costs are attributable to annual rate increases passed onto consumers by local suppliers. For gas, consumption also is expected to remain at relatively the same level as FY 1982, although due to the decontrol of natural gas prices, higher rates are anticipated. However, due to adjustments proposed to the amounts available in FY 1984 to the major components of the utilities account, no increase for this component is sought.

The major component of the communications increase is for telephone service. Although the Institution has made concerted efforts to limit communications costs as evidenced by an equipment growth rate of only 27 percent between 1976 and 1982, costs have risen steadily. Additional funds are sought to cover higher costs for local telephone service resulting from rate increases granted in recent years to the C&P Telephone Company by the Public Service Commission. In addition, base funds have not been sufficient to sustain the cumulative effects of annual rate increases charged for use of the Federal Telecommunications Network Service (FTS) administered by the General Services Administration.

The Institution is continuing the comprehensive program begun in 1983 aimed at limiting escalating costs for postage. This program includes development and transmittal of information to all staff on the need to reduce the volume of all classes of mail, elimination of higher cost priority domestic packages and increased oversight and control of international air parcel post mailings. We anticipate these actions will allow sufficient funds to meet increased postage costs in FY 1985.

RENTAL SPACE - Rental savings realized as a result of the move in FY 1984 of the Smithsonian Oceanographic Sorting Center from the Washington Navy Yard to the Museum Support Center in Suitland, Maryland, will allow sufficient funds in FY 1985 to cover increased rental costs anticipated at other locations (including costs for office space occupied by the Archives of American Art in New York City which, through a reorganization planned in FY 1984, are budgeted for in the central space rental account). Therefore, no additional funds are sought in FY 1985 for rental costs.

ENERGY CONSERVATION EFFORTS - In order to manage use of energy in the most efficient manner possible, consistent with proper environmental conditions for the collections, the Institution is continuing its comprehensive energy management program which concentrates on promoting systems efficiency and conservation. Efforts to promote conservation include operation of a complex automated power management system, which has resulted in substantial energy cost avoidance. This system minimizes costly peak demand rates by cycling motors on and off on a prescheduled basis, and when necessary, selectively shutting down equipment. Monitoring systems have assisted greatly the Institution's conservation efforts by assuring that all building operating equipment functions efficiently.

Progress made in promoting energy conservation in FY 1983 and planned for subsequent years includes continuation of the phased program of performing comprehensive building energy audits and renovating heating, ventilating and air conditioning,

plumbing and electrical systems in the Institution's facilities. (Plans and progress in developing energy efficient utilities systems are addressed in the Construction portion of the budget.) Improvements in these systems will produce the most efficient energy use for the Institution while providing stable temperature and humidity conditions necessary to preserve the collections.

Other continuing efforts to achieve more economical and efficient energy use include efficient lighting levels in work, nonpublic and public areas; operation of heating and air conditioning systems at minimum levels required to prevent damage to collections; shut-down of fans and other heavy consumers of electricity during non-public hours; continuation of an awards program for employees who submit original suggestions that are implemented to conserve energy; and greater attention to energy conservation in determining space use, in modifying existing space, and in designing new facilities.

Although weather, numbers of visitors and new facilities all affect energy consumption, a measure of the success of the Institution's energy conservation efforts can be seen in the fact that consumption of electricity, steam and gas is expected to remain relatively constant between FY 1982 and FY 1985.

INFLATION - Resources totaling \$1,500,000 are requested to help offset the cumulative and anticipated costs to the Smithsonian as a result of inflation. The amount requested is calculated on the basis of 4.9 percent of the total nonsalary object classes of expenses estimated for FY 1984, excluding utilities, rent and Museum Support Center equipment. Inflationary increases represent significant costs that have the cumulative effect of seriously eroding research, exhibitions, collections management, collections acquisition, and 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 organizational units.

Other Information - Cost increases continue to have a severe effect on the Smithsonian's ability to carry out its program functions as they were intended. One such functional area is scientific research. Scientific supplies and contracts for instrument repair and maintenance are becoming increasingly more costly, far outstripping prices in more common goods and services. The following table lists some items that are purchased regularly and illustrates such increases.

Research and Scientific Supplies and Contracts

| <u>Item</u> | <u>FY 1981</u> | <u>FY 1982</u> | <u>Percentage Increase</u> |
|---|----------------|----------------|----------------------------|
| Electron microscope maintenance/year | \$5,064.00 | \$5,742.00 | 13 percent |
| Deionized water service | 2,178.00 | 2,520.00 | 16 percent |
| Petri dishes, per case | 61.40 | 82.90 | 35 percent |
| Dry ice, 100 lbs. | 9.00 | 10.50 | 17 percent |
| Liquid X-ray developer, gallon | 8.43 | 10.66 | 26 percent |
| Kodak film, for scanning electron microscope, 50 sheets | 15.60 | 18.15 | 16 percent |
| Saw blades, diamond, each | 90.75 | 115.00 | 27 percent |
| Digital 125 pH/ion meter | 850.00 | 925.00 | 9 percent |

Inflationary cost increases of research-related items used in the sciences, history and art also are evident including those for supplies, books, journals and publishing. For example, chemicals used in analyzing water samples such as hydrochloric acid, sulfuric acid, and mercuric iodide have increased in cost on an average of 24 percent in 1983 over 1982 prices.

The history, art, and scientific scholarly book and journal trade has been prone especially to a rapid rate of inflation. The rate for books is currently 17 percent. The growth of the books and journals budget has not kept pace with the rise in prices as they are affected by inflation. Consequently, journals which report the most timely data are purchased first and the limited remaining resources are used to purchase books for the collections. The Smithsonian Institution Libraries (SIL) expended \$511,000 in FY 1982 for books and journals. Because of severe budget restraints, there is a heavy reliance on obtaining books and journals from other libraries. The SIL borrows six times as much as it lends to other libraries. Also, duplicates and lesser used serials are discontinued in an effort to cut annual acquisition costs. The cost of binding serials and damaged books has increased an average of seven percent in FY 1982. The SIL will spend \$74,000 in FY 1983 on binding contracts. The estimated costs for journals, books and binding represents two-thirds of the Libraries' nonsalary expenditures.

Publication costs essential to scientific research, as well as to exhibition and educational programs, have been rising steadily. The Smithsonian was advised by the Government Printing Office that printing costs will increase six percent in FY 1983. These publications are disseminated to schools, libraries, and to the general public.

The increases in costs of materials and supplies caused by inflation places a severe strain on the base resources needed to maintain an active exhibition program. The materials used to mount exhibitions are becoming more costly. Measures are taken to lessen the effects of inflation on exhibit preparation costs. For example, the construction of flexible cases reduces the cost and time required to build a customized case for each exhibit. Whenever possible, the work to repair and construct an exhibit area is done by Smithsonian staff rather than by outside contractors. Based on previous experience, vendors are anticipating cost increases of 15 percent for plexiglas and plastic products for FY 1984.

The collections management programs, which are basic to the preservation of invaluable objects, have been affected by the steady price increases of such items as glassine envelopes, polyethylene jars, and shelving. As new specimens become part of the National Collections and when they are returned from being on loan, they are fumigated to protect them from insect damage. Stored botanical specimens are sprayed every few years; bird and mammal storage cases are routinely fumigated twice a year. The price of fumigation gas used to perform this function has increased 11 percent in FY 1982 over FY 1981 prices. Steel desiccating cabinets, which are used to hold meteorite specimens, have increased in cost from \$499 per unit in FY 1981 to \$643 in the latter part of FY 1982, an increase of 29 percent. Similar dramatic price increases are observed in the purchase of other materials used for archival purposes. The following table lists several of these items.

Collections Management Equipment

| <u>ITEM</u> | <u>PERCENTAGE INCREASE</u> |
|--|----------------------------|
| Glass beakers | |
| four - 1981: \$28.20 | |
| 1982: \$31.59 | 12 percent |
| Toluene, cleaning solvent | |
| gal. - 1981: \$14.15 | |
| - 1982: \$17.17 | 21 percent |
| Lightcast tape 3", lightweight flexible cast for animals | |
| box of - 1981: \$52.65 | |
| ten rolls 1983: \$62.05 | 18 percent |
| Disposable scalpel #10 blade | |
| per box - 1981: \$7.12 | |
| 1983: \$9.63 | 35 percent |
| Insect pins | |
| per 1,000 - 1981: \$18.50 | |
| 1982: \$21.00 | 14 percent |

Significantly higher costs of uniform cleaning services result in reduced availability of funds for protection items. The cost for these necessary services for the Office of Protection Services has increased from \$60,000 in FY 1981 to \$69,000 in FY 1982, an increase of 15 percent. The maintenance cost of the communications systems which includes a radio system transmitter and satellite receivers has increased 33 percent. The service contract to test and refill the fire extinguishers annually within the Smithsonian buildings has risen ten percent in cost. The costs associated with maintaining, testing and inspecting the security systems have increased also. It is estimated that \$350,000 will be expended in FY 1983 for security system maintenance and repair, an increase of approximately 13 percent over the cost of similar services provided in FY 1982.

The request of a 4.9 percent increase to nonsalary funds is a modest one. Yet, the additional resources of \$1,500,000 proposed are vital to the integrity of virtually all programs of the Institution. If approved, these resources will assist in maintaining the Smithsonian's programs at a level approximating current effectiveness.

OFFICE OF THE ASSISTANT SECRETARY FOR SCIENCE

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|------|------------------------------------|-----------------|--------|------|------------|------|----------------------------|-----|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | Special Purpose | | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 7 | 371 | - | 64 | - | 51 | 1 | 99 | 3 | 243 |
| FY 1984 Estimate | 11 | 536 | - | 60 | - | 19 | - | 135 | 2 | 223 |
| FY 1985 Estimate | 11 | 536 | - | 79 | - | 1 | - | 116 | 2 | 219 |

*FTP = Full-time permanent positions

ABSTRACT - This Office provides guidance and overall direction for the Institution's scientific research efforts, as well as for the science-related educational and exhibition activities. No program increase is requested for FY 1985.

PROGRAM - The Assistant Secretary for Science serves as the principal advisor to the Secretary for the coordination of Smithsonian science activities. The science 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, and the Office of Educational Research which is included in this line item. Two other activities reporting to the Assistant Secretary for Science are the Office of Fellowships and Grants and the International Environmental Science Program which are included under Special Programs. Additionally, this Office serves as the primary contact with national and international science organizations and serves as a representative on many national and international boards and commissions.

Office of Educational Research - This newly established central office conducts basic research on questions relating to non-school learning and the enhancement of scientific and cultural literacy. This Office consists of staff made available as a result of the merger of the Radiation Biology Laboratory and Chesapeake Bay Center for Environmental Studies to form the Smithsonian Environmental Research Center.

In addition to undertaking research, the Office also develops prototype materials that can be used to teach cultural or scientific principles in museums, zoological parks or natural settings. The Office works closely with the various educational service units of the Institution in providing empirical data to guide them in developing educational programs and materials.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by annual allotment 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 Island Foundation operates the former Royal Society station on the island of Aldabra, located in the Indian

Ocean, where biological research is conducted (projected expenditures of \$15,000 in FY 1984 and in FY 1985). Support is continuing in FY 1984 and FY 1985 for the Charles Darwin Foundation which operates a biological research station in the Galapagos Islands (projected expenditures of \$30,000 in FY 1984 and in FY 1985). The Mahendra Nature Conservation Trust operates a field station in the Terai region of Nepal where significant ecosystem research is underway and provides over ten years of unparalleled data on a unique environment on the Indian subcontinent (projected expenditures of \$5,000 in FY 1984 and \$10,000 in FY 1985). Smithsonian support facilitates the continued use of these areas for the research community at large. A separate fund also supports the exchange of scholars between the People's Republic of China and the Smithsonian, ranging in interest across the spectrum of natural and physical sciences (estimated expenditures of \$18,000 in FY 1984 and \$14,000 in FY 1985).

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 for continuing support of conservation and science in the Galapagos Islands (estimated expenditures of \$30,000 in FY 1984 and in FY 1985). Estimated expenditures include competitive awards 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 1984 and in FY 1985). The FY 1983 awards from the Seidell Endowment are reflected in the estimated expenditures of the awardee.

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 \$209,000 in FY 1984 and \$219,000 in FY 1985). Also, the National Science Foundation supported research on "The Role of Family in Promotion of Science Literacy" (estimated expenditures of \$39,000 in FY 1983 and \$14,000 in FY 1984).

NATIONAL MUSEUM OF NATURAL HISTORY/MUSEUM OF MAN

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|--------|------------------------------------|------|-----------------|------|------------|--------|----------------------------|-------|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | FTP* | Amount | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | | | Amount | |
| FY 1983 Estimate | 503 | 17,924 | - | 217 | - | 239 | 5 | 1,679 | 25 | 1,348 |
| FY 1984 Estimate | 503 | 18,797 | - | 13 | - | 196 | 6 | 2,157 | 18 | 1,031 |
| FY 1985 Estimate | 509 | 19,797 | - | 10 | - | 228 | 5 | 1,792 | 20 | 887 |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Research Equipment.....260
Automation.....100
Exhibitions and Performances.....290
Basic Research.....350

ABSTRACT - The National Museum of Natural History/Museum of Man (NMNH/MOM) concentrates on research in the natural sciences and on the origins and development of man. The Museum today employs over 100 scientists engaged in the study of man, animals and plants, and the Earth. The collections of the Museum, comprising about 81 million specimens, are used by staff and visiting scientists, and are preserved carefully for the use of future scholars. The Museum's exhibits are viewed by over five million visitors each year, and the Museum's education program serves the visitors as well as many special groups, such as schools, the aged and the mentally and physically handicapped. For FY 1985, an increase of 6 positions and \$1.0 million is requested to establish a long-term program of replacement of critical scientific equipment (\$260,000); provide additional computer time necessary for adequate collections management information systems (\$100,000); enable the Museum to mount one exhibition annually from its own collections in the Evans Hall (\$290,000); and to support two important research projects on volcanism and reef ecosystems, the results of which will enhance similar studies under way within the Government (6 positions and \$350,000).

PROGRAM - The National Museum of Natural History/Museum of Man has three important roles in furtherance of its public and specialized obligations. The Museum educates and inspires an audience numbering well over five million visitors a year through its exhibitions and education programs. The collections represent the Museum's greatest assets, for it is this legacy of information about man and the natural world which will be passed along to future scholars and visitors. These collections, now known to number approximately 81 million specimens, constitute the largest scientific reference collection in the Nation. The Museum has the legal responsibility (20 U.S.C. 59) to serve as the repository of all collections of objects of natural history, archeology and ethnology made by the agencies of the Government when no longer needed for investigations in progress. Additionally, the NMNH/MOM is the repository for valuable specialized collections obtained from the

scientific community, academic institutions and private donors. The research staff promotes the dissemination of information about the natural world through active study of the collections and field work, the results of which are reported in publications, lectures, teaching, and participation in the creation of the Museum's exhibits.

Following is a discussion of major activities of the Museum:

Research - The research conducted at the Museum results in important new understanding about man, plants, animals, fossil organisms, rocks, minerals, sediments and materials from outer space. The Museum's scientists publish over 100 books, scientific papers and articles each year. This research is problem-oriented and geared toward the study of collections and specimens in the laboratory and in the field. Subjects of long-term interest include biological and taxonomic studies of the earth's major life forms and geology, in all types of habitats; investigations of changing environments and cultures; ecological interactions; and studies of the history of life and cultures. Special consideration always has been given to wildlife conservation, and study of endangered cultures, species, and habitats.

The Museum's published record of research in the natural sciences, its large and well-documented collections, and its knowledgeable staff make a significant contribution to the Nation's natural science research effort. Its activities are not duplicated by other agencies. The Museum provides considerable assistance and service in areas of its speciality to other government agencies, such as the Department of Agriculture, Fish and Wildlife Service, United States Geological Survey, and National Oceanic and Atmospheric Administration. In addition, the Museum's resources are used by large numbers of scientists, writers, and publishers from other institutions throughout this country and abroad.

In FY 1984 and 1985, the Museum will continue and also initiate several collaborative research programs in environmentally threatened areas of the world such as the tropical rain forest of central and eastern Brazil, the Eastern Ghats area of India, Aldabra atoll in the Indian Ocean, the Red Sea and other oceanographic areas. Support is being provided from the International Environmental Science Program for several of these projects.

The Handbook of North American Indians will be a 20-volume series of books about the cultures, artifacts, territories and habits of native North American Indians. This is a special project of the Museum which has met with wide acclaim from educators, researchers, and many other people interested in American Indians. The books have been well received and most have gone through at least two printings, with over 50,000 copies sold and well over \$1.0 million returned to the United States Treasury in the form of receipts. Volumes on the Northeast, California, Subarctic, and Arctic Indians, and two volumes on the Southwest Indians were completed by the end of 1983, and the volume on Indians of the Great Basin is scheduled for completion by the end of 1984. Each volume is illustrated and contains 60 to 80 separate articles submitted by scholars throughout the world.

Major research accomplishments for FY 1983 included the following:

- Publication of a volume commemorating the 100th Anniversary of the Eruption of the Krakatoa Volcano, in the Indonesian Archipelago. This compendium is a new scholarly treatment of the eruption portraying not only a natural event of cataclysmic proportions, but also a scientific analysis of the event which offers new insights into volcano dynamics.

- Preliminary work has shown that "turfs" of algae can be grown readily on simple artificial structures in the Caribbean Sea. Further work is being done on the prospect of harvesting these turfs, or animals which can be grown selectively on them, to produce energy or food stuffs.

- Research was begun on a study of insect life in the Amazonian tropical forest canopy, 100-120 feet above the forest floor. The study is focused on the diverse forests of the Tambopata Nature Reserve in southeast Peru. Forest canopies are uniformly "fogged" with nonpersistent insecticide, and the insects are caught in large funnel-shaped trays suspended beneath the trees within the test sites. The studies have shown that the forest canopy is populated by an incredible richness of insect species--far more than previously estimated. More than half of the species collected are new to science. Many of these species may have potential usefulness in medicine, forestry and agriculture.

- In April of 1983, the Museum received a block of sandstone from Egypt containing what is believed to be the oldest human skeleton ever found in Egypt. Initially, it was thought that the skeleton might be that of a Neanderthal, but preliminary results indicated that the remains are not of that subspecies, although still of substantial age and interest. Continued work should shed more light on the question of where this specimen fits in human evolution.

- Study on lichens indicates that certain species are particularly sensitive to pollutants in the atmosphere. Through study of these pollution-sensitive lichens in the Flattop Wilderness Area of western Colorado, the Museum has been able to help the National Park Service and the United States Forest Service establish air quality standards necessary for licensing of energy development projects in the area. This is an example of the direct, practical benefit that can be derived from work done by the Museum's scientists.

Exhibits - Exhibitions presented in the Museum are the most visible of the Museum's activities. The exhibitions are meant to engage and educate the millions of visitors who come to the Museum each year. Since the exhibits program was rejuvenated in the early 1970s, eight major new exhibit halls have been renovated. The most recent effort has been devoted to renovation of the halls of paleontology, with the Dinosaur Hall as the centerpiece. All of the halls of paleontology will be completed by 1984, when attention will shift to the Life in the Sea Hall. The exhibits rejuvenation is a cooperative effort between the Department of Exhibits and the scientific staff of the Museum. The staff provides the latest information on the subjects to be treated in the exhibits, and the Department of Exhibits provides the expertise to develop the halls. This collaboration has worked to assure scientific accuracy in the exhibits, as well as attractive and durable displays. A major asset to the Museum's and the Institution's exhibits program is the Thomas M. Evans Special Exhibits Gallery, which was opened in 1981. This gallery has been the focus of five major exhibitions since its opening. These include: "5,000 Years of Korean Art," "Inua - The Spirit World of the Bering Sea Eskimo," "Japanese Ceramics," "The Silk Route and Diamond Path," and "Heritage of Islam." The Museum produced a significant show entitled "Inua," which featured objects created by the Bering Sea Eskimos and collected almost 100 years ago. The importance of this show was heightened by the use of objects from the Museum's own collections which have been unavailable for public view almost since the time they were collected. Another major show, which will draw on the Museum's collections in the same way, will cover the Wilkes scientific expedition of 1838-1842, and will be mounted in the Evans Gallery in 1985.

Collections Management - Care of the collections is the major responsibility of the Museum. The collections currently represent 137 years of field work ranging from the Arctic Ocean to the Antarctic, and from virtually all other areas of the globe. The objects, plus supporting photographs and records, form a permanent and tangible record of the earth's history. In June of 1983, the Museum's inventory of its holdings was completed. The Museum's holdings were found to comprise 2,000 collections, with a total of about 81 million specimens. Enhancement of these inventory records and reconciliation work are planned over the next several years to further refine knowledge of and accountability for the collections. The specimens and data which comprise the Museum's collections constitute the baseline for ecological, evolutionary, and developmental studies from which new knowledge is generated and against which it can be measured. The collections and records are the benchmarks for natural history research. It is worth noting that old collections in the natural sciences do not become antiquated. On the contrary, the value of older collections increases because they are frequently the only records that document former environmental conditions that have since been altered, often radically, under the encroachments of man. These materials are studied regularly by scholars outside the Institution. Not only must the Museum care for existing collections, but it actively must seek new collections which document the many thousands of as yet undescribed species of plants and animals. Hundreds of scientists come each year to visit the Museum's collections, and many publications result from this work. Nearly half of the Museum's budget and staff is devoted to the care of these collections.

The National Human Studies Film Archives was established to collect and preserve historical and contemporary ethnographic film and video records. The work of the Archives involves locating, collecting, preserving, and making available for study these visual records of western and nonwestern life. The Archives was transferred from the Center for the Study of Man to the Department of Anthropology in FY 1983, and shortly thereafter an inventory was completed and a cataloguing system begun.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of 6 positions and \$1.0 million is requested to establish a long-term program of replacement of critical scientific equipment (\$260,000); provide additional computer time necessary for adequate collections management information systems (\$100,000); enable the Museum to mount one exhibition annually from its own collections in the Evans Hall (\$290,000); and to support two important research projects on volcanism and reef ecosystems, the results of which will enhance similar studies under way within the Government (6 positions and \$350,000).

Research Equipment (\$260,000) - The Museum of Natural History/Museum of Man possesses 2,532 pieces of nonexpendable scientific equipment, with an original cost of \$2,255,000 and current depreciated value of \$880,100. The Museum has developed a scheduled research equipment replacement program in order to assure that scientific research is not weakened by the use of obsolete equipment; and furthermore, that the rapid technological innovations available in new scientific equipment are utilized to expand the research capabilities of the scientific staff.

The Museum currently is able to provide funds for major research equipment purchases only on an intermittent basis. Without the program of research equipment replacement (with replacement costs in excess of \$4 million), the Museum would face progressive difficulties in providing the tools needed to keep the curatorial and research staff in the forefront of scientific investigations and in increasing the efficiency and productivity of the staff. Therefore, \$260,000 is requested to establish this phased program of research equipment replacement.

This program would emphasize the introduction of state-of-the-art equipment in current and developing technologies as these more sophisticated research tools become available in different research fields. As a result, during FY 1985, the first year of this replacement program, it is anticipated that the following pieces of equipment would be purchased: (1) a Transmission Electron Microscope (principally for the Department of Botany and other departments in the Life Sciences); (2) an Atomic Absorption Unit (for the Department of Mineral Sciences); and (3) an Image Analyzer (for the Department of Paleobiology).

(1) Transmission Electron Microscope (\$148,000) - The great advantage of electron microscopes is the tremendous increase in magnification over optical microscopes--the resolving power of the transmission electron microscope (TEM) is about 1,000 times better than that of the finest optical or light microscope. The development of the transmission electron microscope opened the field of cell ultrastructure, and ultimately produced visualization of macromolecular complexes, and even large protein molecules. The TEM produces an image of a specimen by passing a beam of electrons through the specimen in a high vacuum, causing deflection of the electrons at various angles. This deflection, called scattering, when processed through the appropriate electronic equipment produces an image that can be viewed on a screen or recorded by black and white photography. The TEM provides very detailed information about the internal structures of organic materials that can be used in the classification of specimens and the analysis of the function of the organic material being examined.

(2) Atomic Absorption Unit (\$32,000) - An atomic absorption-flame emission, double-beam instrument is used in the analyses of major, minor and trace elements. The instrument, equipped with a furnace and various burners to handle both solid and liquid samples, also includes a cathode-ray tube to monitor the operation of the furnace and a printer to record the scientific data output. The analyses of these elements are used in identification and analysis of minerals to determine history of formation and subsequent modification of these minerals.

(3) Image Analyzer (\$80,000) - An image analyzer enables the automatic identification and analysis of objects of similar shape by the interpretation of video and/or photographic images into mathematical relationships and equations. This object analysis is used in measuring the physical characteristics of an object, such as shape, volume, and growth patterns, and producing comparative studies of different individual specimens of the same specimen group, as well as for identification purposes.

Automation (\$100,000) - Computers have become an indispensable tool in support of research and collections management at the Museum of Natural History/Museum of Man. Over the last 17 years, considerable resources and manpower have been spent in documenting the holdings of the Museum and putting them on computer records, and in developing a wide array of research applications which use the computer. The Museum now holds several millions of computerized records about specimens in its care, and better than half of the scientific staff is engaged in the use of computers in support of their research. The rapid growth in computer capability over the last 17 years has stimulated increased usage by scientists and provided an effective means of managing the growing collections management records. Now, however, the time has come when the Museum must request a supplement to its budget to enable the scientists to continue to use this tool, and to enable the collections managers to ask intelligent questions of the data bases which have been built. These increased costs cannot be matched by savings because they do not replace functions formerly carried out, but rather they add quality to the product of the Museum's effort. The kinds of comparisons and calculations made today by scientists using the computer were simply never made before. The conclusions reached are sounder and of greater interest because of the use of the computer, and increase the value of the National Collections by the application of new techniques.

Computers will continue to be an important research and collections management tool into the future for the Museum. In the immediate future, accessioning and loan management will be automated. The requested increase of \$100,000 will enable the Museum to reap the advantages offered by computers, through increased use of the central Smithsonian computer services.

Exhibitions and Performances (\$290,000) - For over 100 years, the Smithsonian has been gathering materials from the cultures and natural environments of the world. The Museum of Natural History/Museum of Man is by far the largest holder of these collections in the Smithsonian, and is seeking an opportunity to make more of them available to the public than ever before. With the construction of the Thomas M. Evans Special Exhibits Gallery in 1981, the Museum acquired an appropriate space for the exhibition of major short-term exhibits. While most of the exhibits which have been shown in the Evans Gallery have come from outside the Smithsonian, one of the most successful has been a show mounted from the Museum's own collections--"Inua: Spirit World of the Bering Sea Eskimo." This obvious interest of the public in the holdings of the Museum underlies the request made here for funds to exhibit more of the Museum's collections.

It is proposed, with the monies requested, to use the Evans Gallery principally as a forum for the display of the beautiful and interesting collections housed at the Museum of Natural History/Museum of Man. Rather than mounting shows which have been assembled elsewhere and are not relevant directly to the Museum's own collections, the focus will turn now to the treasures in the Museum's own holdings which should be displayed for public education and interest. As an important corollary, these exhibits would travel, under the auspices of the Smithsonian Institution Traveling Exhibition Service (SITES). SITES will be showing the "Inua" exhibit at numerous localities around the United States in the years to come, and there will be many more opportunities in the future for these Smithsonian-generated exhibits to tour.

The requested increase of \$290,000 will enable the Museum of Natural History/Museum of Man to mount at least one show each year, from its own substantial collections and will provide for contractual services--design, installation, demolition (\$230,000); supplies and materials (\$35,000); and printing (\$25,000).

Basic Research (6 positions and \$350,000) - This amount are requested to support two important research projects: "Global Volcanism Project" and "Caribbean Coral Reef Ecosystems under Stress." The results of these projects will enhance the ongoing research work of other United States government agencies that are conducting related studies.

Of this support for basic research, four positions and \$175,000 are sought for the "Global Volcanism Project." Global volcanism, occurring both along active plate boundaries and at isolated intraplate sites, poses some of the most important problems, and opportunities, in the earth sciences--both from the standpoint of deciphering fundamental solid-earth processes and of mitigating the hazards posed by volcanic activity. Existing Smithsonian programs in this field consist of the individual research work of three scientists, their technical support, and the data gathering and dissemination operations of the Scientific Event Alert Network (SEAN). While currently strong, there is an important need to expand the present program into systematic investigation of global volcanism, chiefly through the integration of chemical and geophysical data with the Smithsonian's collections and the existing large body of data relating to the chronology and physical characteristics of global volcanism.

An important element of the program expansion will be an improvement of the capabilities to acquire, archive, and retrieve visual images, geophysical records, and narrative accounts relating to the volcanoes of the world, including photographs, maps, and other documentation. Toward this end, videodisc technology will be applied to the system of data-handling and archiving of this research material.

The requested increase of \$175,000 would be used to hire a geologist, a geophysicist, and two technicians for the project staff (4 positions and \$98,000); purchase the scientific equipment needed for the data-handling and archiving systems (\$30,000); contract for scientific and professional services (\$39,000); and provide funding for the research travel necessary for the project (\$8,000).

The remaining two positions and \$175,000 will be for the "Caribbean Coral Reef Ecosystems under Stress" research project. Coral reefs are productive and diverse biological communities that are of considerable value to man: they protect tropical coasts and islands from wave erosion, provide large quantities of high quality proteins, harbor a vast supply of chemical compounds for potential pharmacological application, and through their geological characteristics contribute to the understanding of hydrocarbon reservoirs in deeply buried fossil reefs. Because coral reefs generally are not as visible to man as comparable land communities, the stress and eventual damage caused by pollutants, silting, waste dumping, overfishing, hurricanes, and coral disease may not be detected readily. Once the delicate balance of this complex ecosystem is upset, the growth of the sensitive framework building corals is impeded; the entire community declines and may never recover.

In 1972, the Smithsonian initiated a baseline study of the virtually untouched Caribbean barrier reef off Belize, Central America. In cooperation with the United States Geological Survey, National Oceanic and Atmospheric Administration, and several universities, Smithsonian scientists have completed an extensive documentation of the fauna, flora, oceanography and geological history of the reef communities around Carrie Bow Cay, off the mainland of Belize.

The requested increase of \$175,000 would enable the knowledge gained from the Carrie Bow Cay studies to be applied to investigations of other reef areas, such as reefs stressed by man-induced factors such as oil pollution, silting, and overfishing, as well as by natural factors such as seasonal low temperatures, hurricanes, and coral disease. The results of quantitative analyses in these areas will form the basis for the development of an ecological model that will be used to predict the effects of natural and man-induced stresses on reef ecosystems through the Caribbean Basin. The funding would be used to hire a coral specialist and a technician (2 positions and \$50,000) and provide the equipment, supplies, contractual services and travel necessary for the project (\$125,000).

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from the Museum's share of net proceeds in the museum shop, cafeterias and other receipts such as the sale of exhibit brochures, the "By-Word" communications system and tuition reimbursement grants from local universities. Allotments include those from the Institution's Collections Acquisition, Scholarly Studies and Educational Outreach Programs which supported the acquisition of the Lamb collection of African textiles, and several research and education projects. In addition, Special Purpose funds are used to help finance exhibit hall brochures, field research, audio-visual equipment for exhibit halls, laboratory equipment and supplies, training for anthropology students, research in paleontology, and support of the Anthropological Archives. In

FY 1983, funds in this category provided for a research catalogue on the exhibition "Inua: Spirit World of the Bering Sea Eskimo." General fund allotments were provided for the "Silk Route and Diamond Path" exhibition in FY 1983 (\$30,000); for continued work on the Handbook of North American Birds, to be completed in FY 1984 (\$4,000); and for special events related to the opening of new exhibits. Also, an allotment was awarded to the Museum to cover costs of research work on the Marine Sanctuary Program (estimated expenditures of \$150,000 in FY 1983).

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 exhibit or research project. Among the restricted funds are the Roebing Fund for acquisition of mineral specimens and gems (estimated expenditures of \$15,000 in FY 1984 and \$16,000 in FY 1985); the Drake Fund for purchase of entomological specimens (estimated expenditures of \$10,000 in FY 1984 and in FY 1985); the Sprague Fund for experiments and field research into the physics and chemistry of the Earth (estimated expenditures of \$52,000 in FY 1984 and \$49,000 in FY 1985); the Becker Fund for the study of the physical and chemical state of molten rock in volcanic chambers prior to major explosive eruptions and for geophysical studies of meteorite impact structures (estimated expenditures of \$17,000 in FY 1984 and in FY 1985); three Seidell Fund awards for publication of reprints on the 1883 Krakatoa eruption, the Catalog of the Diptera of North America, and Whalebone Whales of the Western North Atlantic (expenditures of \$32,000 in FY 1983); the Exxon Fund for ecological study of coral reefs (estimated expenditures of \$21,000 in FY 1984 and in FY 1985); and funds to support ethnological research among the Canela Indians of Brazil (estimated expenditures of \$34,000 in FY 1984 and \$36,000 in FY 1985). A gift provided funds for the Evans Gallery exhibition, "Japanese Ceramics Today" (expenditures in FY 1983 of \$137,000). Additional sources of funding are being sought to develop and publish discussion guides for a Museum series to be used in conjunction with the National Council on the Aging by organizations for the elderly (estimated expenditures of \$139,000 in FY 1984). Also, the Museum is seeking funds for research in the field to study viability of aquaculture farming in the Caribbean (estimated expenditures of \$42,000 in FY 1983 and \$50,000 in FY 1984). Other funding is available through FY 1985 for research in ornithology (estimated expenditures of \$18,000 in FY 1984 and in FY 1985); funds for field research and training of Latin American archeologists (estimated expenditures of \$10,000 in FY 1984 and in FY 1985); and improvement of the curation, conservation and storage of the Philippine ethnological collection (estimated expenditures of \$184,000 in FY 1984 and \$113,000 in FY 1985).

In FY 1982, the Museum undertook the management of the Smithsonian Marine Station in 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 transitional zone offering an unrivaled opportunity for study of a unique complex of both temperate and tropical plants and animals. Research conducted here emphasizes studies of the life histories, systematics and ecology of a wide spectrum of marine life. Contributing to the research efforts are a resident scientist, Smithsonian visiting scientists, post-doctoral fellows and numerous national and international visiting investigators (estimated expenditures of \$389,000 in FY 1983, \$391,000 in FY 1984 and \$408,000 in FY 1985). 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 \$406,000 in FY 1983, \$438,000 in FY 1984 and \$460,000 in FY 1985).

The Museum is seeking support from private sources for special exhibitions in the Evans Gallery (estimated expenditures of \$598,000 in FY 1984 and \$449,000 in FY 1985). The Museum also has several other restricted funds, each with anticipated expenditures of less than \$15,000 a year.

Federal Grants and Contracts - These funds are provided by various agencies and departments for special projects which can be conducted at NMNH/MOM because of the Museum's scientific expertise. Examples of Federal contract support are: the Medical Entomology Project funded by the United States Army that conducts basic bio-systematic research on the effects of arthropods, such as mosquitoes, which are of medical significance overseas (estimated expenditures of \$126,000 in FY 1983; funding terminated in June 1983); another project funded by the United States Army to create a computer data file on the medical importance, distribution, ecology and collection of mosquitoes (estimated expenditures of \$65,000 in FY 1984 and \$71,000 in FY 1985); the "Tumor Registry in Lower Animals" project funded by the National Cancer Institute which facilitates the study of neoplasms and related disorders in invertebrate and cold-blooded vertebrate animals important in human biomedical research (estimated expenditures of \$280,000 in FY 1983, \$281,000 in FY 1984 and \$321,000 in FY 1985); a project funded by the National Science Foundation to the Smithsonian Oceanographic Sorting Center to increase knowledge of polar ecosystems by studying extant collections of flora and fauna (estimated expenditures of \$104,000 in FY 1984 and \$93,000 in FY 1985) and to process and distribute polar biological specimens and data (estimated expenditures of \$165,000 in FY 1983, \$204,000 in FY 1984 and \$209,000 in FY 1985); a project funded by the National Oceanic and Atmospheric Administration for environmental assessment and systems analysis of Gouldsboro Bay, Maine (estimated expenditures of \$151,000 in FY 1983 and \$50,000 in FY 1984); 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 \$139,000 in FY 1983, \$152,000 in FY 1984 and \$162,000 in FY 1985). National Science Foundation funding for taxonomic research on Neotropical butterflies was provided for one year only (expenditures of \$123,000 in FY 1983). The Museum also is seeking funds for various research projects and construction of a Maine coast tank similar to the Coral Reef Exhibit (estimated expenditures of \$130,000 in FY 1984).

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|--------|------------------------------------|--------|-----------------|--------|------------|--------|----------------------------|--------|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | FTP* | Amount | General | | Special Purpose | | FTP* | Amount | FTP* | Amount |
| | | | FTP* | Amount | FTP* | Amount | | | | |
| FY 1983 Estimate | 78 | 6,487 | 59 | 2,384 | 2 | 421 | 1 | 186 | 100 | 11,852 |
| FY 1984 Estimate | 78 | 6,892 | 46 | 2,123 | 2 | 422 | 1 | 179 | 99 | 11,351 |
| FY 1985 Estimate | 79 | 7,852 | 46 | 2,271 | 2 | 458 | 1 | 150 | 100 | 11,071 |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Research Equipment.....760
 Research Support.....150
 Automation..... 50

ABSTRACT - The Smithsonian Astrophysical Observatory (SAO), established in 1890, conducts a comprehensive program of basic astrophysical research in seven interrelated scientific fields: atomic and molecular physics, high energy astrophysics, optical and infrared astronomy, planetary sciences, radio astronomy and geoastronomy, solar and stellar physics, and theoretical astrophysics.

In support of these investigations, scientific data are obtained from laboratory experiments in Cambridge, Massachusetts; from telescopic observations conducted primarily at the Fred L. Whipple Observatory, location of the Multiple Mirror Telescope (MMT) on Mt. Hopkins near Tucson, Arizona; from SAO's laser satellite tracking stations; and from space observations utilizing satellites, rockets and balloons. The reduction and analysis of these data are performed with SAO's interactive computer system in Cambridge. The resulting astrophysical models and scientific interpretations are published in scientific journals and reports and are distributed to the scientific community and to the public through lectures and articles.

For FY 1985, an increase of 1 position and \$960,000 is requested to continue the establishment of an adequate replacement program for general laboratory, test and computer equipment (\$760,000); purchase four acres of land in Amado, Arizona, to serve as the permanent headquarters for the Whipple Observatory (\$150,000); and begin development of a management information system (1 position and \$50,000).

PROGRAM - The Smithsonian Astrophysical Observatory's international leadership in astrophysics is based in part on its diversified approach to research. SAO's staff has served not only as an intellectual nucleus but created new research tools to respond to promising avenues of investigation. Although the research programs are divided among seven research divisions, all efforts are integrated so that the results in one division often complement those in another. SAO cooperates in almost all of these programs with the Harvard College Observatory (HCO), which together form the Center for Astrophysics (CfA). A description of the programs of each division and a few recent results from each are given below.

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 division is to increase knowledge of the characteristics of atomic and molecular interactions. To accomplish this goal the division is involved in both laboratory and theoretical studies. Federally appropriated funds support approximately 50 percent of this research program; contracts and grants and Institution Trust funds support the remainder.

Laboratory experiments which make use of a newly developed laser light source combined with apparatus which forms well defined beams of neutral molecules will be used during FY 1985 to measure the basic absorption processes of hydroxyl and other molecular radicals. This is important in the study of objects such as comets whose chemical components can provide important clues relative to the origin of the solar system.

The net production and destruction of ozone are important processes to be studied because of their basic scientific content and because of the critical role ozone plays in sustaining life on Earth. An experiment to measure the effects of atmospheric pressure on the characteristics of radio waves emitted by ozone is under way. These results will be used in other studies which use the emission of radio waves from ozone to measure its concentration at various altitudes.

Nitric oxide also is present in the atmosphere of Earth and is a very efficient destroyer of ozone. Nitric oxide concentration has been measured by detecting the characteristic light it emits after absorbing sunlight. The atomic nitrogen ion emits light at almost the same frequency and is detected along with the nitric oxide. The efficiency with which the atomic nitrogen ion emits light has been calculated by division scientists and measured so that the nitric oxide concentration can be extracted correctly from the aforementioned observations.

High Energy Astrophysics - Research in high energy astrophysics is concentrated on the study of astronomical objects that emit a substantial fraction of their energy in X-rays. Since X-rays are absorbed by Earth's atmosphere, observations must be made from rockets, the Space Shuttle, or satellites. SAO scientists and engineers are developing new instrumentation to carry out such future space science missions. Scientific studies are directed at a broad range of questions including the processes involved in generating radiation observed in the X-ray band, the amount of matter in the universe, and the origin, development, and ultimate fate of the universe. More than 90 percent of the funding for this division's research comes from contracts and grants, a small amount of Institution Trust funds and the remainder from Federal appropriations.

In FY 1983, a laboratory was established for the development and evaluation of advanced detectors for use in future X-ray observatories. Several different types of X-ray detectors are under active evaluation in order to optimize their performance over a range of factors including size, spatial resolution, energy resolution, detection efficiency over a broad energy range, and susceptibility to background noise.

The coming year (FY 1984) will mark major developments in three hardware programs. The National Aeronautics and Space Administration (NASA) plans call for SAO to begin design and construction of "flight" hardware for a prototype Large Area Modular Array of Reflectors (LAMAR) for a future Space Shuttle mission. LAMAR represents a low-cost approach to achieving a very large collecting area to determine the energy coming from X-ray sources as well as to search for possible variations in the X-ray intensity with time. Such studies can provide essential information about the mechanisms by which intense sources of X-ray radiation are generated. The Advanced X-ray Astrophysics Facility (AXAF) will be a national X-ray observatory having almost ten times the reso-

lution of the Einstein satellite and a sensitivity almost 100 times greater, thereby enabling scientists to study fainter and more distant objects in greater detail than previously was possible. AXAF will be an X-ray facility of at least 15 years duration, serviceable and maintainable in orbit through the use of the Space Shuttle. SAO personnel also will continue under NASA support, the development of a High Resolution Imaging detector to be included on the Federal Republic of Germany's Roentgen Satellite (ROSAT), scheduled to be launched in 1987. The ROSAT will carry out a sensitive all-sky X-ray survey and will be used for X-ray observations of selected targets of astronomical interest.

In the coming year SAO scientists plan to utilize the great sensitivity of the Multiple Mirror Telescope (MMT) to search for very faint and distant quasars (sources of enormous energy, possibly due to the release of gravitational energy by matter falling back into black holes at the centers of galaxies). These data will be used to describe how the numbers of quasars and their radiated energy change over the lifetime of the universe and to improve previous estimates of the contribution of these quasars to the all-sky X-ray background. The MMT also will be used to search for faint optical counterparts to X-ray sources found in sensitive surveys made with the Einstein satellite. Distant galaxies, clusters of galaxies, and quasars are among the types of extragalactic objects expected to be found.

Optical and Infrared Astronomy - The division of optical and infrared astronomy has responsibility for the Fred L. Whipple Observatory, containing the Multiple Mirror Telescope. The MMT (operated jointly with the University of Arizona) is being used by astronomers for studies of galaxies, quasars, star clusters, X-ray sources, regions of recent star formation, and other interesting astronomical objects. Observations made with the MMT and other instruments at the Whipple Observatory are playing a major role in increasing the understanding of the large-scale distribution of matter in the universe and its evolution. Studies of the motions of galaxies, especially of galaxies in clusters, have strengthened the conclusion that the universe will expand forever. And, the success of the MMT as the first large high-technology telescope is paving the way for a new generation of giant ground-based instruments. Approximately 65 percent of funding for research in this division comes from Federal appropriations with the remainder from contracts and grants, and Institution Trust funds.

Observations of distant quasars with the MMT have been used to study their distribution in space, to probe primordial gas clouds, and to study conditions in the tremendously energetic central regions of the quasars themselves. A survey of faint quasars has shown that at very large distances, as far back in time as when galaxies had recently formed, quasars were more numerous. This may explain the puzzle of the X-ray background radiation: it simply may be the energetic radiation resulting from the violent activity in the cores of an early generation of quasars. In another project using the MMT, very distant quasars (the most luminous objects in the universe) were used as "laboratory lamps" to study the physical conditions in the intervening clouds of intergalactic gas. Work to improve the optical finish of the MMT mirrors will continue so that greater advantage can be taken of the excellent image quality allowed by the unusually steady atmosphere at the summit of Mt. Hopkins.

Development of state-of-the-art instrumentation for the MMT is an ongoing program that will continue through FY 1985. The main emphasis is on the development of better imaging detectors for spectroscopy of very faint objects. A major effort is being invested in the implementation of improved charge-coupled devices and the upgrading of the computer systems used to handle the very large arrays of data created by these new devices. The goal is to extend the reach of the MMT to fainter galaxies and quasars at larger distances than the present limits.

Planetary Sciences - Personnel in this division work to understand the planets, satellites, and small bodies of the solar system, and try to discover the events and processes that created them from gas and dust billions of years ago. Meteorites contain samples of the first solid objects that formed in the solar system, and these can be studied in the laboratory. By the same means division scientists learn by studying the Apollo lunar samples, of what happens to a planet when it forms. The motions of comets, which are measured carefully and catalogued at SAO, are the last stages of complex and far-ranging journeys begun by masses of snow and dust long ago, when the gravitational fields of newly formed planets threw them out of the solar system. About 45 percent of the cost of this research is met by Federal appropriations to the Smithsonian Institution. The remaining 55 percent of support is received from research grants and contracts and fees for services to the scientific community.

One of the most important recent developments in the planetary sciences was the discovery by an SAO scientist of a water-and-ice volcano on Europa, Jupiter's fourth largest moon. This discovery was made through a careful examination of photographs taken by the Voyager spacecraft as it passed by Jupiter several years ago. Europa is the second Jupiter satellite found to be erupting a molten substance in the same way lava is erupted on Earth. The other is Io, which erupts molten sulfur. Detecting volcanism on two moons at different distances from their parent planet provides a means to test the theory that tidal motions created by Jupiter are responsible for the internal heating that gives rise to the volcanic activity.

SAO participated in an expedition to Antarctica sponsored by the National Science Foundation (NSF) in which 378 new meteorites were discovered. Their radioactivity is being measured to determine the length of time they have lain in the Antarctic ice. The several specimens so far measured at SAO show residence times varying from 7,000 to 300,000 years. These measurements will improve our knowledge of the frequency with which meteorites fall on Earth and, also, will establish the rate of flow of Antarctic ice, an important factor influencing Earth's climate.

In the coming year, in addition to continuing these research programs, SAO scientists will make maps of the icy surface of Ganymede (another of Jupiter's moons), exploiting the photographic survey made by the Voyager spacecraft. Very late in 1984 Halley's comet will begin to be bright enough and close enough to allow measurements of its position to be made at the SAO Oak Ridge Observatory located at Harvard, Massachusetts. These positional data will be essential to properly point the instruments to be placed by the Europeans aboard their Giotto spacecraft which will pass close to Halley early in 1986.

Radio Astronomy and Geoastronomy - Division members conduct research in radio astronomy and geophysics. Programs in radio astronomy concentrate on understanding the structure, evolution, sources of energy, and ultimate fate of radio-wave-emitting astronomical objects distributed throughout the universe. To carry out these investigations, a radio procedure is employed called Very Long Baseline Interferometry, or simply VLBI. SAO scientists have pioneered many important developments in VLBI technology and have applied these techniques to advance knowledge of the properties of objects that populate the universe.

The operation of a global network of satellite-tracking stations--each equipped with a laser and receiving telescope--also is coordinated by the division. In this program, bursts of laser radiation are fired at selected satellites, and the delay of the echo of this light, reflected from the satellite, is measured. This "optical radar" system of tracking satellites provides data that allow determination of the satellite orbits, study of the wobble of Earth's axis of rotation, detection of small changes in the length of the day, and even measurement of the drifts of continents with respect to each other. About 15 percent of support for this division is provided by Federal appropriations with the remainder coming from contracts and grants.

VLBI observations of water-maser sources, which are very powerful radio wave emitters, were completed in an ambitious project to determine the size of our galaxy (the Milky Way). This determination is accomplished by tracking the gas flows, which envelop newly formed stars, made luminous by intense radio emission from trace quantities of water vapor. This experiment not only reveals the distance to the young objects, but also contributes to our understanding of the motions of materials surrounding heavily obscured, massive, newborn stars, which are about 50 times more massive than the Sun and have exceedingly powerful stellar winds.

Using radio tracking of the Pioneer Venus Orbiter, small irregularities are being mapped in the gravitational potential of Venus. These irregularities are compared to the topography 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 test and to develop theories that describe such important terrestrial phenomena as earthquakes, volcanoes, and the formation of mineral deposits.

SAO scientists originally invented and patented a device called the Tethered Satellite System. Carried aboard the Space Shuttle, a very long wire may be deployed from a reel housed within the Space Shuttle. A reel can accommodate more than 40 miles of wire one-eighth inch in diameter. With a satellite attached to the tether, it can be reeled out approximately 40 miles above or below the shuttle allowing the satellite to be either "towed" through space, retrieved, or released. The system offers numerous operational advantages. Some of the potential applications of the tether are unique. If the tether is a long wire towed through Earth's magnetic field, it becomes a useful source of electrical power. If used as a very long antenna for a transmitter, a study of how radio waves travel through the outermost layers of Earth's gaseous envelope can be performed.

Solar and Stellar Physics - The research activities of this division are directed principally towards understanding the physical processes in the Sun and stars. Explaining solar activity--the complex conversion of magnetic fields below the surface to the features we can finally see--represents a fundamental question of physics. Stars like the Sun are also of interest in order to increase understanding of stars of different ages, stars in pairs and groups, and stars with different compositions. Observations and theory play complementary roles in this effort. Over 60 percent of the support for this division is provided from contracts and grants with the remainder coming from Federally appropriated funds.

Several hundred stars now have been observed in SAO's program to measure stellar rotation, in collaboration with the Mt. Wilson Observatory, leading to the discovery of fundamental relations between the amount of magnetic activity (for example, starspots--areas on stars similar to sunspots) on other stars and their rotation rate. These results are important for understanding solar activity and the mechanism which creates sunspot cycles and solar flares. They also aid in understanding the evolution of the Sun.

A rocket experiment flown on July 20, 1982, made the first optical measurements of the solar winds in the outer atmosphere of the Sun where the solar wind originates. Analysis of these rocket data is under way and will yield temperatures, densities, and velocities of the solar wind in the region where the wind originates. How this material is driven away from the Sun is still a major unsolved problem of solar physics. Its resolution would assist in understanding the solar wind in relation to Earth.

A new computer program has been developed 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 Whipple Observatory and by satellites in space.

Theoretical Astrophysics - Theoreticians in this division study and try to understand astronomical systems by means of physical analysis and mathematical modeling. A broad range of topics has been 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. These studies are relevant to the understanding of a variety of astronomical phenomena observed via visible light, radio waves, X-rays and other forms of radiation that reach Earth. Approximately 80 percent of the funding for this division is derived from Federal appropriations with the remainder from contracts and grant activity.

Magnetic white dwarfs currently are under active study. These are compact stars that emit polarized X-rays, which are modulated by the star's rotation. The generation of radiation in the strong magnetic fields surrounding these stars was studied by modeling the physical properties and geometry of the emitting regions and performing extensive computer calculations of the observable radiation. By comparison of these theoretical results to observations, it has been possible to deduce many intrinsic properties of these stars. This work will be extended in the coming year to include the dynamics of material falling onto white dwarf stars, which represents the source of the emitted energy. This extension should permit a fuller understanding of the nature of X-ray sources.

Also under theoretical scrutiny are globular clusters, systems of stars distributed in our galaxy that typically each contain millions of stars and that seem to contain an abnormally large number of X-ray sources. Studies at SAO have explained this association as a result of the formation of binary stars (two stars orbiting about one another), due to the gravitational interactions in the dense cores of the cluster. Many of these binaries will be formed as X-ray emitters, enough to explain the number of X-ray sources observed in the globular clusters. One surprising result of this study is that the mass contained in the cores of globular clusters is very nearly the same from one cluster to another. This similarity is not well explained by other current theories, which deal directly with the mass in the cores of clusters, and suggests that some improvements in these theories are needed. Various possibilities for such improvements will be investigated in FY 1985.

Administration - In addition to the seven scientific divisions, SAO has a large complement of nonscientific personnel, the majority of whom are funded by means of administrative charges to grants and contracts. Since SAO is located almost 500 miles north of Washington, D.C., it has been necessary to develop a broad administrative function which supplements the services available to Mall activities. This includes a personnel office, a contracting and procurement office, property management, a fiscal office, communications, publications, and public information, as well as shipping and receiving. In addition, SAO has a travel office, a computer facility and an extensive astronomical library.

In order to be more efficient and responsive to the needs of the scientists, SAO anticipates automating many of these functions. Therefore, this and future budget requests will reflect that priority.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of 1 position and \$960,000 is requested to continue an adequate replacement program for general laboratory, test and computer equipment (\$760,000); purchase four acres of land in Amado, Arizona, to serve as the permanent headquarters for the Whipple Observatory (\$150,000); and begin development of a management information system (1 position and \$50,000).

Research Equipment (\$760,000) - The Observatory has completed a detailed inventory and evaluation of its general laboratory, test and computer equipment. The survey showed that the equipment, which has a total current replacement value in excess of \$7 million, must begin to be replaced in a phased fashion beginning in FY 1984 if SAO is to maintain its technological expertise. The survey showed a requirement of \$2.4 million for FY 1984-FY 1985 and the request of \$760,000, given anticipated Congressional action on the FY 1984 request, will provide adequate resources to proceed in the acquisition of the equipment as planned.

Research Support (\$150,000) - Research activities of the Whipple Observatory are conducted on a 4,744-acre site at the 7,600-foot level of Mt. Hopkins. For the past 13 years, a four-acre site in the town of Amado, Arizona, has been leased for use as headquarters of the Observatory. The headquarters site is midway between the cities of Tucson and Nogales and offers easy access from a nearby interstate highway for visitors and for the delivery of research equipment and supplies. Access to the research facilities on the mountain is permitted by a limited-access secondary road that originates at the headquarters location.

On the property is a one-level school building and a residence which serve as the base office and staging area for research activities on the mountain. There are also a small, informal Visitors' Center which has displays on the history of astronomy and audio-visual presentations describing Smithsonian research; various automotive service, repair and storage buildings with gravel parking and driveway areas; and space for the motor pool which provides daily access to the mountain site, continual road maintenance, and winter snow removal. Current and projected needs of the Observatory necessitate a larger and more permanent headquarters facility. Leasehold improvement is not economical, but the site is significant because of its accessibility to the mountain and the interstate highway, and the existence of all necessary utilities. Smithsonian ownership would permit the development over several years of permanent facilities in a planned and coordinated fashion that would be cost-effective, cause minimum disruption to current operations, and protect the integrity of the neighboring community and its environment.

Legislation has been introduced in the 98th Congress that would authorize the Smithsonian to purchase these four acres of land in Santa Cruz County, Arizona, for use as the permanent headquarters of the Fred L. Whipple Observatory. The requested increase would allow the funding to execute this purchase in FY 1985.

Automation (1 position and \$50,000) - Recent advances in computer hardware and software technologies, as well as major reductions in the cost of hardware, have made it more feasible to begin to take advantage of these changes and improvements to automate many of SAO's administrative functions. In particular, SAO proposes to begin the development of a data base management system (DBMS) which would tie together the various sub-data base systems (personnel, property, procurement and fiscal) would provide management with a capability to maintain better oversight of its human, physical and financial resources. It also would provide a better capability for long- and short-range planning, including evaluations of options and sets of conditions, which otherwise would require an inordinate amount of personnel time.

It is recognized that although the system will be designed to meet SAO needs, it must be compatible with automation systems being developed by the Smithsonian in Washington, D.C. It is anticipated that this program will take three to five years to plan and implement, and will be accomplished in a phased approach. The requested increase of 1 position and \$50,000 would be used to hire a data base manager/specialist and for support costs. The primary function of this person will be to assess SAO's needs and begin to formulate an appropriate plan for the development of a data base system.

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 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. The former may be used for research purposes and for computer related purchases in future years. The latter are grouped into various programs. The Fellowships and Visiting Scholars Program estimated expenditures are \$244,000 in FY 1983, with anticipated expenditures of \$260,000 in FY 1984 and \$300,000 in FY 1985. Funds for special events are used for scientific lectures and meetings hosted by the Observatory. Fluid Research funds are used for travel and related costs of small individual research grants. Finally, funds from the Institution's Collections Acquisition, Scholarly Studies and Education Program are used mostly to support research projects.

Restricted Funds - Restricted funds consist of restricted endowments, gifts and grants from individuals, foundations, organizations and corporations which specify funds for a particular project. Restricted Endowment Funds provide support for studies in geophysics and related physical sciences (estimated expenditures of \$72,000 in FY 1984 and \$55,000 in FY 1985). A grant from the Chemical Manufacturers Association assists SAO in performing studies of the chemical balance of halogen in the ozone of the stratosphere (estimated expenditures of \$76,000 in FY 1984 and \$79,000 in FY 1985).

Federal Grants and Contracts - SAO receives a majority of its funding through Federal agency grants and contracts for research. These studies are integrated with both governmental and academic institutions in the United States and abroad. Almost all of this funding comes from NASA for space science projects, particularly in the high energy astrophysics and radio astronomy/geoastronomy divisions. Some funding from Federal agencies, such as the Naval Research Laboratory and the Air Force, is received to support specific projects in areas of SAO's expertise. FY 1982 expenditures were \$10,551,000. The FY 1983 projections total \$11,852,000 with the increase largely due to the High Resolution Imaging Detector Program which was initiated this year; the detector is scheduled for flight in 1987 on the German Roentgen satellite (ROSAT). Estimated expenditures in FY 1984 amount to \$11,351,000, and in FY 1985 to \$11,071,000. The slight decrease is due to the fact that the Observatory was unsuccessful in securing the Goddard Laser Tracking Network Contract, the effect of which is the loss of the existing Satellite Tracking Program grant. The projections now incorporate appropriate phaseout costs for this Program.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-------|------------------------------------|------|-----------------|------|------------|------|----------------------------|----|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 86 | 3,038 | 2 | 70 | - | 117 | 8 | 313 | - | 21 |
| FY 1984 Estimate | 86 | 3,319 | 2 | 82 | - | 112 | 8 | 260 | - | 5 |
| FY 1985 Estimate | 92 | 3,574 | 2 | 87 | - | 128 | 8 | 228 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Research Support..... 50
 Automation..... 55
 Basic Research.....150

ABSTRACT - The Smithsonian Tropical Research Institute (STRI), located in the Republic of Panama, serves as an international center for studies in tropical biology. Research activities focussing on ecology, behavior and evolution are undertaken, complemented by applied studies in such areas as agroforestry and natural resource conservation. An active program of education is undertaken by visits to Barro Colorado Island Nature Monument (under STRI custodianship), in Gatun Lake, and preparation of audio-visual and educational materials. Training and research opportunities are afforded to students from the high school level to senior scholar status. Facilities on both the Pacific and Atlantic Oceans, as well as Barro Colorado Island, are utilized by a worldwide community of scientists and students.

For FY 1985, an increase of 6 positions and \$255,000 is requested to establish a motor vehicle and equipment replacement program (\$50,000); purchase computer hardware and software (\$38,000) and hire a computer specialist (1 position and \$17,000); and conduct research on agroforestry and tropical deforestation (5 positions and \$150,000).

PROGRAM - Studies conducted in the tropics are aimed at learning about the evolution of life. Tropical ecosystems, particularly the tropical rainforests, are disappearing at an alarming rate, yet little is known or understood about these complex biota. In many areas of the world, ecosystems are threatened with extinction before much is learned about them. It generally has been accepted that tropical forests are rich in unexploited potential for the benefit of mankind and that their destruction would result in an immeasurable and irreparable loss of genetic material. Knowledge derived from the tropics could serve as a model to predict the functioning of other natural systems throughout the world.

The growing realization of the importance of the tropics has resulted in an increasing demand for use of STRI facilities by scientists throughout the world. In 1982 and 1983, STRI had 1,360 short- and long-term visitors, more than any previous year. This is a reflection of the leading role played by STRI in tropical studies. Many visiting scientists now are engaged in valuable long-term comparative studies on a wide-spread basis that ties up space in laboratories and residences on an annual basis. To meet the needs of its own and visiting scholars, a new library devoted to tropical sciences has opened at the Institute's headquarters site close to the heart of Panama City. This makes STRI's unique library available to a wider community of international scholars and gives it a preeminent place in such institutions. In addition, at the Naos Marine Laboratory a pre-World War I U.S. Army building has been reconstructed to provide 12-15 offices and new well-equipped laboratories for scientists.

The key to understanding the tropics lays in answering questions over a long-term period. Since many processes occur over a longer biological time scale than the calendar year, only such continuity can detect long-term vital processes. It already has been shown that the tropics, previously thought to be stable, over a period of years have proven to be subject to wide variability. The permanent STRI scientific staff, who live and work continuously in the tropics, provide the critical continuity for such studies. Examples of this importance can be cited from studies in the Bay of Panama and on the Barro Colorado Island Nature Monument.

The Bay of Panama is the center of an important ocean upwelling with profound biological effects. It is also the site of an important shrimp fishery. Scientists at STRI's Naos Laboratory have been carrying out long-term studies of the Bay. During 1983, STRI scientists and visitors recorded the first-time appearance in Panama of several species of Peruvian seabirds. These included the Inca Tern and the Peruvian Boobies. Also recorded was an unprecedented die-off of corals in the Gulf of Chiriqui and mass mortality among Atlantic sea urchins. On land, 1983 started with one of the longest dry seasons on record in contrast to the unusually wet dry season of 1982. Terrestrial organisms on Barro Colorado Island, as elsewhere, were strongly influenced by the unusually dry conditions, including the death of many plants inside the rain-forest.

The Africanized bee reached Costa Rica in 1983 and will continue to spread towards the United States. The ecological consequences of the invasion of this species are being constantly monitored at STRI, which is advising governments of the region on the control and amelioration of this insect.

A vigorous policy of disseminating ideas through publications and international conferences is pursued by STRI. In 1983, the publication of Ecology of Tropical Forests illustrates another important scientific accomplishment of STRI. This work summarizes a ten-year study of a ten-hectare watershed on Barro Colorado Island. In August 1983, the Institute together with the University of Panama, hosted the IXth International Congress of Arachnology. This was the first time the Congress was held outside Europe and delegates from more than 20 countries attended. In 1983-1984, STRI scientists and students participated in seven major international scientific congresses as either invited speakers or delegates as well as in numerous national congresses and symposia. They also carried out comparative studies in India, Malaysia, Sabah, Brunei, Nepal, Hawaii, Guam, Australia, Fiji, Costa Rica, Colombia, Venezuela, Cuba, Belize, and Chile. More than 150 research publications resulted from studies supported by STRI.

As a permanent entity with easy access to tropical areas, STRI plays a significant role in preparing students for a career in tropical biology. The general objective of the educational program at STRI is to foster the scientific development of students at the university level, providing them the opportunity of independent thinking (fellowships) and for acquiring training and experience while continuing their education (assistantships). During FY 1983, STRI will have had a number of participants in this capacity, including nationals from the United States, Panama, Great Britain, Mexico, Costa Rica, Ecuador, Colombia, Peru, Chile, and Brazil.

Scientists living and working in the Third World cannot be immune to the broader problems which surround their daily existence. The tropics are experiencing major ecological, social and economic repercussions. While STRI is devoted primarily to basic research, it recognizes its obligations to assist nations in the tropics in solving problems that are encountered by making its scientific advice available.

STRI maintains formal cooperative agreements with a number of national institutions, particularly in Panama and Colombia. STRI has agreements with a number of Panamanian and international agencies to provide advice and assistance related to the management of watersheds, conservation of soils and waters, reforestation, preservation of flora and fauna and management of forest reserves and park areas. These agreements will enhance STRI contributions to applied research, particularly in protecting the watershed of the Panama Canal, and will result in the establishment of joint research projects to be carried out in the West Bank of the Panama Canal close to the boundary of STRI's Barro Colorado Island Nature Monument (BCINM). STRI staff also are assisting the Tri-national Committee (under the auspices of the State Department) in assessing improvement alternatives to the present Panama Canal.

Since FY 1983, STRI's scientists have engaged in an ambitious research proposal entitled "Alternatives to Destruction" which is designed to discover ways to utilize the tropical forest for the benefit of mankind without causing serious and long-lasting effects. The research has been funded partially from private sources, as noted in the Nonappropriated Sources of Funding section. Projects include domesticating the paca, a large New World rodent esteemed as a food item; increasing the yield of iguanas available for food; and developing systems for game management, aquaculture and forest gardening.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of 6 positions and \$255,000 is requested to establish a motor vehicle and equipment replacement program, (\$50,000); purchase computer hardware and software (\$38,000) and hire a computer specialist (1 position and \$17,000); and conduct research on agroforestry and tropical deforestation (5 positions and \$150,000).

Research support (\$50,000) - STRI has a total motor vehicle fleet of 16 vehicles, which is the minimum level needed to enable the scientific staff to conduct research as required at the different research sites along the Panamanian Isthmus. At this time, approximately 50 percent of the motor vehicle fleet meet the minimum replacement standards. Most of the excess government vehicles owned by STRI are overaged and exceed the age and/or mileage standards prescribed by the General Services Administration. The overaged vehicles will be replaced by smaller pick-up utility vehicles that are cheaper, easier to maintain, and use less fuel, thereby improving fleet mileage and saving resources for the Institution. An amount of \$30,000 will allow the establishment of a five-year replacement cycle for overaged vehicles which support all facilities and research programs.

In addition, STRI's base resources are insufficient to provide adequate funding for the purchase of outboard motors (15, 25 and 55 horsepower units) and other equipment that has reached the end of its serviceable life and is no longer economical or practical to maintain. Presently, different sizes of outboard motor units are in use to support research operation in marine biology at Naos, Galata, and San Blas; to transport visiting and staff scientists from research sites within the BCINM; and to allow the force of game wardens continued close protection of the nearly 5,000 hectares of moist tropical forest against squatters, poachers and intruders. Funding would provide for replacement of ten outboard motors (\$7,000), vacuum pumps (\$2,000), seawater system components (\$5,000), drill presses (\$4,000) and bench grinders (\$2,000).

Automation (1 position and \$55,000) - Much of STRI's research into tropical ecology involves the collection and analysis of complex and extensive data sets. For example, STRI has mapped in detail 52 hectares of tropical forest on Barro Colorado Island, and has marked and identified 250,000 plants on this area. For these plants at least ten data points will be studied over a period of seven years for a total of 2.5 million data points. Statistical analysis of data taken on this scale can only be accomplished by the use of a computer. Computing facilities on Barro Colorado Island would enable data from numerous other research projects to be analyzed while studies were in progress.

STRI has at present a computer system located in the Tivoli building. The analysis of computer utilization at STRI, carried out by the Office of Information Resource Management in FY 1983, recommended that certain actions were essential to insure proper utilization of STRI's computer systems.

Therefore, an amount of \$38,000 is requested in FY 1985 for the acquisition of electronic data processing hardware and software. The hardware/software items include: a ten megabyte disc (\$10,000), a 250 LPM line printer (\$8,000), a serial printer (\$3,000), a record management system (\$2,000), and a graphics software package (\$3,000). The remaining \$12,000 is necessary to acquire hardware which will allow for expanded communication capabilities between various STRI facilities as well as data communications with Washington, D.C.

The 1983 analysis of computer utilization at STRI also recommended that a position be established for a technically qualified person to manage computer operations, plan the development of computer services and help in designing programs. At present, computer use in direct research and research support administration is expanding. In direct research, scientists are making extensive use of computers for data analysis and storage. Furthermore, administrative support for research such as procurement, inventory control and accounting can be facilitated greatly by expanding the use of computers. All these functions of computers cannot be fully utilized without the addition of a computer specialist (1 position and \$17,000).

Basic Research (5 positions and \$150,000) - Although the problem of tropical deforestation and the short- and long-term consequence of this destruction have been extensively documented, the knowledge necessary to recreate these natural forests is not available from current research. Presently, attempts to reforest tropical areas have involved a small number of quick-growing commercially lucrative species that produce forests that are species-poor and bear no relationships to the complicated ecosystem that constituted the original forest.

Research must be undertaken into the ecological dynamics of the forest and into techniques, particularly those of propagation and silviculture, in order to understand how the forest functions and what techniques are appropriate for reforestation. The exploration of the productive biology of a substantial number of tropical forest tree species will utilize the carefully mapped 50 hectare study site on Barro Colorado Island, where 250,000 trees already have been identified, measured and mapped. Particular emphasis will be placed on studying the adaptations, often highly specialized, that facilitate pollination, fertilization, dispersal and germination. Studies also would cover the effects of inter- and intra-specifics competition which may be crucially important in the species-rich forests and provide insights into the ultimate commercial potential of the constituent species previously not assessed for their utility. Thus, studies on the mapped plot would assess the effects on growth of: field shading conditions, variations of edaphics (soil and soil moisture characteristics) effects of neighboring species, vine and epiphyte cover.

The requested increase of 5 positions and \$150,000 would fund technical studies on seedling propagation (\$72,000) and fundamental ecological studies (\$78,000) that would lead to the increase of knowledge on the ecological dynamics of the forest necessary to recreate natural tropical forests.

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 Island Nature Monument facilities (20 U.S.C. 79b(d)) and 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 visiting scientists and students, field research, seminars, lectures and to defray expenses at international scientific colloquia and ceremonial occasions.

Restricted Funds - Funds provided here are in the form of restricted endowments which specify the use of the donation or bequest and of gifts and 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 the restricted endowments is the Becker Endowment Fund, which has supported the studies of damage to tropical rainforests by earthquake-caused landslides in the neotropics and Papua New Guinea (expenditures totaled \$11,000 in FY 1983). Continuing support from the Exxon Corporation will be used to provide short-term tropical biology fellowships and assistance to students from developing Latin American countries under the supervision of STRI's scientific staff (estimated expenditures of \$39,000 in FY 1984 and \$43,000 in FY 1985); the Tupper Foundation grant for conducting ecological studies related to the endangered environment in the Perlas Archipelago (estimated expenditures of \$5,000 in FY 1984 and \$1,000 in FY 1985); the Robert Silberglid Memorial Fund to support fellowships in tropical entomology for young biologists (estimated expenditures of \$1,000 in FY 1984 and \$2,000 in FY 1985); the Rare Animal Relief Effort (RARE) grant to support the formation and functioning of student conservation groups throughout Panama (estimated expenditures of \$2,000 in FY 1984); the Eisenmann Fund for the purchase of scientific books for the STRI Library (estimated expenditures of \$2,000 in

FY 1984 and in FY 1985); and the significant grant awarded by the W. Alton Jones Foundation, Inc., for the following research projects: (1) management of the green iguana to determine whether populations can be increased for human consumption; (2) the possibility of domesticating the paca as a food source; (3) the possibility of increasing the mammal populations in the natural forests; (4) developing horticultural practices to be used inside tropical forests; and (5) the possibility of raising nitrogen fixing floating aquatic plants in ponds, for the purpose of developing alternatives to the destruction of tropical forests. The projects are being carried out over a five-year period in the West Bank of the Canal in the vicinity of Barro Colorado Island Nature Monument (estimated expenditures of \$200,000 in FY 1984 and \$169,000 in FY 1985).

SMITHSONIAN ENVIRONMENTAL RESEARCH CENTER

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-------|------------------------------------|------|-----------------|------|------------|------|----------------------------|-----|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 71 | 3,113 | 1 | 63 | - | 106 | - | 51 | 3 | 254 |
| FY 1984 Estimate | 67 | 3,093 | 1 | 68 | - | 114 | - | 18 | 3 | 392 |
| FY 1985 Estimate | 70 | 3,313 | 1 | 70 | - | 120 | - | 9 | 2 | 285 |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Research Equipment.....140
 Research Support.....80

ABSTRACT - The Smithsonian Environmental Research Center (SERC) performs basic research with the goal of measuring physical, chemical and biological interactions in environmental settings and of determining the mechanisms within cells by which these interactions regulate biological responses. Formed by the merger of the Radiation Biology Laboratory and the Chesapeake Bay Center for Environmental Studies in July 1983, the Environmental Research Center maintains two research facilities--a laboratory at Rockville, Maryland and a 2,600 acre facility in Edgewater, Maryland.

At the Rockville laboratory, scientists study how the quality, duration and intensity of light influence organisms at the cellular and subcellular level. Scientists identify pigments responsible for the absorption of light and determine the subsequent biological processes using controlled growth chambers that simulate natural conditions. At Edgewater, scientists study land and water interactions for an estuary and its adjacent watersheds. The effects of sunlight, climatic variation and land use practices on the watershed are measured throughout the system. Important environmental responses of individual species or populations at the Edgewater site are selected for detailed investigation of control mechanisms at the Rockville laboratory. In a reciprocal manner, molecular control processes demonstrated to function under controlled conditions in the laboratory suggest new ways of testing their importance in the field under natural conditions. For FY 1985, an increase of three positions and \$220,000 is requested to establish a basic program of replacement of scientific equipment (\$140,000) and provide adequate technical support for research programs (3 positions and \$80,000).

PROGRAM - Research of the Center emphasizes the relationship of environmental control factors to biological responses. Control factors such as climatology (e.g., light, rainfall) and management practices (e.g., agricultural chemicals, land cultivation) are measured continuously. Variation in these driving forces are related to biological responses at the landscape, population and cellular level. Observational and manipulative approaches are employed to develop and test environmental concepts. An emphasis is placed upon how biological communities are developed and maintained over time. The responses of major species to a variation in light quality is important to a long-term understanding of how natural communities have developed over time to utilize sunlight best under a given range of other climatic variation. An understanding of these relationships will enable better sound management of land and water by allowing prediction of the effects resulting from alternative actions.

Under laboratory conditions, where the environmental factors can be precisely controlled, the responding cellular systems can be dissected and the underlying molecular mechanisms determined. One of the major control factors is light and the Center's emphasis upon light effects is of greater scope than that of any other single photobiology laboratory. Major contributions have been made including: (a) description for the first time of several biological responses to different colors of light, which gives information about the nature of pigments involved, and (b) development of methods for measuring sunlight that have led to techniques and calibration standards used worldwide.

These data have led to an understanding of cellular processes such as photosynthesis, pigment synthesis and the utilization of stored chemical energy by signals from the environment. However, it is not known how these processes interact in a dynamic, natural environment. In July 1983, two administrative units (the Radiation Biology Laboratory and the Chesapeake Bay Center for Environmental Studies) were merged to form the Environmental Research Center. This merger will allow for a coordinated program between field and laboratory emphases to understand better how to assess the productivity of diverse natural environments and to provide predictive estimates of the responses to changes in the environment, whether man-made or natural. Such programs are, by their very nature, long-term and require the concerted efforts of a number of scientific disciplines. Disciplines represented within the Center include physiology, ecology, microbiology, zoology, cytology, biochemistry, biophysics, physics, engineering and electron microscopy.

An estuarine sanctuary has been established at the Rhode River which allows for public education about the biology of an estuary and allows for site visits by interested students. Limited classes and tours are provided to disseminate the research findings of the staff.

A description of some significant studies currently underway or recently completed is listed below:

- 1) Tidal marshes are being ditched in many areas for purposes of mosquito control, but the long-term ecological impacts are unknown. A study of ditching impacts on Chesapeake Bay wetlands has shown that deleterious effects occur when the water table is lowered. Such areas are invaded by undesirable shrubs and decomposition rates are decreased. Thus, when tidal marsh management practices are designed for mosquito control purposes, methods can be selected which also maintain high water tables.

2) The activities of predatory animals are an important factor in the regulation of invertebrate populations in estuaries. The impacts of predatory blue crabs and two common species of fish (spot and hogchoker) feeding on the bottom-dwelling invertebrates of the Rhode River were measured over the summer season in 1982. Seasonal changes in diet of the three predators were compared by analyzing stomach contents. Crabs had the greatest impact on whole clams, whereas the two fishes consumed amphipod crustaceans, polychaete worms, and clam siphons.

3) A long-term problem in biology has been the identification of the pigment responsible for phototropism and other blue-light regulated processes of plants. For the first time, using the techniques of genetics, it has been possible to show that two blue-light induced responses in the fungus Neurospora crassa, production of carotenoid pigments and phototropism, share common steps in the sensory transduction pathways. This use of mutants that are blocked at various points in these pathways opens a new direction that may lead to the ultimate identification of the pigment or pigment systems responsible.

4) The effects of far-red and infrared radiation on plant growth can be categorized as thermal and photosynthetic. The spectral composition of electrical light sources, unlike the solar spectrum, have a relatively large component in the infrared region of the electromagnetic spectrum. This infrared component is absorbed by plants. It enhances productivity at sub-optimal temperatures, when temperature is a limiting factor and is detrimental at supra-optimal temperatures. The far-red component of these sources, while not as significant a portion of their spectrum as the infrared, is utilized by the plant at near optimal temperatures to increase productivity beyond that achieved with only visible radiation. Thus not only the visible but the longer wavelengths of the electromagnetic spectrum can be utilized to enhance plant growth.

5) Blue-green algae are known for their adaptability to their environment. Mutants that grow better in far-red light (greater than 650 nm) than in white light have altered levels of antennae pigments that funnel light energy into the reaction centers for photosynthesis. By measuring the number of photosynthetic reaction centers and the relative proportions of the pigments present, it was concluded that these cells have a rather simple adaptive mechanism in which the cells change the antennae size, but not their number.

6) The productivity of the dinoflagellate Prorocentrum mariae lebouriae was characterized for different spectral qualities, irradiances, temperatures, water pH and water carbon content using an infrared gas analysis system. These measurements of the rapid response provided for the first time, quantitatively, the size of the transient carbon dioxide pulses which characterize the carbon reserves in the photosynthetic pathway.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of three positions and \$220,000 is requested to establish a basic program of replacement of scientific equipment (\$140,000) and provide adequate technical support for research programs (3 positions and \$80,000).

Research Equipment (\$140,000) - The research program of the Center is dependent on the quality of the scientific equipment available to measure, analyze and test the relationship of environmental control factors to biological responses. An ongoing program of replacement of scientific equipment is necessary for the Center in order to compensate for the progressive effects of obsolescence of current equipment and to

take advantage of the advanced research capabilities of new technological innovations available in state-of-the-art equipment. In FY 1985, this replacement program would allow the purchase of a freeze-fracturing system (\$100,000) and a bench top mass spectrometer (\$40,000).

The freeze-fracturing system, with a propane cyro-jet device, multiple specimen table, electron beam evaporation system, film thickness measuring and associated microtome, is required to determine the physical localization and spatial orientation of specific functional parts in the photosynthetic membranes of cells. From the data obtained this way a three-dimensional reconstruction can be assembled of the membranes and their reactive components. This instrument also can be used to study other photosensitive membranes such as those involved in the photochrome responses or in blue light regulated responses.

The bench top mass spectrometer will be used to trace nutrient and food chain pathways in complex natural environments. It will be used to measure stable isotope ratios among naturally occurring isotopes of carbon, oxygen and nitrogen. A given organism will have ratios similar to what it has been eating. Samples are converted to simple gases such as carbon dioxide or elemental nitrogen. The ratios of molecules of various molecular weights can be determined with a small high resolution bench top mass spectrometer which separates the molecules on the basis of their molecular weight. Data obtained from this instrument will assist in better understanding the productivity of coastal systems.

Research Support (3 positions and \$80,000) - Three biological laboratory technicians are required to provide the laboratory assistance for research programs measuring cycling of material and organisms in the environment. A technician is necessary for the collections of marine invertebrates such as crabs to determine distribution and seasonal movements; one technician is necessary to assist in sampling, culturing, and identification of marine microorganisms to determine productivity and population dynamics; and the third technician is needed to assist with measurements of nutrient cycling and secondary succession of plants in terrestrial habitats.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are provided by allotments and sales proceeds of educational brochures and materials. They are used to support the Center's special events, summer ecology program, work/learn program, and the salary costs of a docent coordinator and a part-time public program director. Expenditures are estimated to be \$80,000 in FY 1984 and \$85,000 in FY 1985.

Restricted Funds - These are provided through donations, bequests and foundation grants that are designated for specific subjects of investigation. For the Center, these include the Eppley Foundation Grant to support investigation of biological responses to solar radiation and the Rollins Endowment Fund used to support the study of physical measurements of radiation (estimated expenditures of \$13,000 in FY 1984 and \$5,000 in FY 1985).

Federal Grants and Contracts - These funds are provided by various Federal and State agencies for special projects which can be conducted at the Center because of the expertise of the Center's staff and its site characteristics. Contracts from the National Science Foundation, the Chesapeake Research Consortium, U.S. Department of Energy and the University of Minnesota will be approximately \$392,000 in FY 1984 and \$285,000 in FY 1985.

NATIONAL AIR AND SPACE MUSEUM

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-------|------------------------------------|------|-----------------|-------|------------|------|----------------------------|-----|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 222 | 7,278 | - | 5 | 28 | 2,427 | 1 | 159 | 1 | 136 |
| FY 1984 Estimate | 222 | 7,678 | - | 8 | 28 | 2,189 | 1 | 107 | 1 | 151 |
| FY 1985 Estimate | 226 | 7,873 | - | 8 | 28 | 2,303 | 1 | 104 | 1 | 139 |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Collections Management.....45
 Research Support.....150

ABSTRACT - The National Air and Space Museum (NASM) serves as an international repository for artifacts and documentation related to the development of aviation, space flight and space science. The Museum's programs encompass exhibitions, research, preservation/restoration and education. The Museum serves a wide public and scholarly audience interested in the history and technical significance of aviation and space flight. In addition to its Mall location, the Museum maintains an off-site facility for the preservation and restoration of artifacts at the Paul E. Garber Preservation, Restoration and Storage Facility in Suitland, Maryland. For FY 1985, an increase of 4 positions and \$195,000 is requested to purchase equipment for the videodisc project (\$45,000); and to hire a scientist, computer systems analyst, research assistant and secretary, and for research support costs (4 positions and \$150,000).

PROGRAM - The National Air and Space Museum has, since its opening, served as a focal point for public and scholarly interest in the history of air and space development. Utilizing state-of-the-art techniques, its exhibitions have been visited by over 65 million visitors to date. Its extensive holdings of artifacts, papers, photographs, microfiche and technical drawings serve not only in-house researchers, but interested scholars from throughout the United States and abroad. Its library holdings and on-line computer capabilities are considered the finest in the nation. An active scientific program, aimed at understanding both Earth and planetary geology, continues to be recognized as an important component for the Museum. Innovative 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 educational and outreach activities of the Museum through lectures, films, Spacearium presentations, and written materials for schools and visitors to the Museum.

Research - During FY 1983, new directions were set to establish the Museum as a primary center for research in the history of the science and technology of aviation and space. The Museum's plans in this regard will be aided by restructuring the research staff, to include an associate director for research, a curator of Manned Spaceflight, and a curator for Air Transportation. Extensive research by the Aeronautics Department is currently underway on the History of Aircraft publication project. This four-volume work, covering the history of flight from antiquity to the present, is expected to become the standard for researchers in the field. Research and documentation about NASA's new Space Telescope presently is being conducted. The resulting publication will coincide with the launch of the Space Telescope.

The Center for Earth and Planetary Studies is continuing its research in remote sensing. The addition of a computer in FY 1983 enabled real-time remote sensing on the planet Mars. Next fiscal year will see real-time remote sensing on Uranus when Viking reaches its final destination. Real-time remote sensing allows researchers to better perform geological mapping of planets' surfaces and provides data on any surface changes which may occur. In FY 1985, the Museum plans to enhance important research in this area by upgrading computer programming and peripherals.

Exhibitions - In FY 1983, the Museum expanded its exhibitions and presentations programs with the opening of the gallery "Stars." "Stars" explains to a wide audience the historical, commercial and cultural aspects of the Sun and stars. Another major enhancement to the Museum this fiscal year is the "Live from Mars" exhibit which shows photography of the Martian surface taken by the Viking 2 Lander and transmitted to Earth. The Museum will also complete other smaller exhibitions in FY 1983 which include some very important areas in the history of air and space, such as: "James Webb, The Man Behind Apollo"; "American Aces," a tribute to the flyers from World War I and beyond; and "Americans View the Birth of Flight," commemorating the 200th anniversary of man's first tethered flight in a balloon. Additions to the art collection have enabled showing of the following exhibitions: "Airshow," an exhibition of photography by Budd Davisson; Henri Farre, the first aviation combat artist; "The Artist and the Space Shuttle"; and "The Aviation Art of Frank Wootton." FY 1984 will include the major exhibition "Golden Age of Flight." This will be a full gallery covering the historically significant period between 1919 and 1939 including record-setting distance flights, oceanic flights, air races and exploration. Additional plans for FY 1984 cover such topics as bush pilots; the Harry S. Truman Centennial, honoring the air and space-related activities during the Truman administration; World War II Sea-Air Photography; and a commemorative exhibit on the renowned aviation pioneers Edward Heineman and Kelly Johnson.

Exhibit plans for FY 1985 include increasing emphasis on scientific topics that also are of historical interest. "Looking at Earth" is a gallery which will explain and display the use of satellites in studying communication and the earth's weather and land resources. The Scott Draper exhibit will follow the life and achievements of this well-known rocket scientist. A smaller exhibit on V-2 science will show the use of this German rocket in the development of our modern-day rockets. The extremely popular art exhibits will focus on "Modern Masters of Air and Space, 1890 to Present" and "Sea-Air Photography." Upgrading of exhibitions also is planned for Early Flight, and Balloons and Airships galleries.

Public Education and Orientation - The Public Services and Education Division of the Museum provides tours and develops publications, demonstrations, lectures, seminars, workshops, audio-visual material and information requests for the general public and educational institutions. It will focus during FY 1985 on expanding associations with academic and scientific organizations as a part of the Museum's expanded research efforts.

During FY 1983, tours were conducted for over 50,000 visitors with increased emphasis on service to the handicapped. In its first two years of operation, the Teacher Resource Center has provided approximately 20,000 educators with aerospace resources and science activities for use within their classrooms, while the Regional Resource Program has reached over 26,000 individuals in 32 states during this fiscal year. These participants are provided with training and planned programs in order to conduct presentations in aerospace education in their own schools and communities across the country. In FY 1983, an extensive program of free public lectures has included the well-known science reporter Jules Bergman, and scientists Phillip Morrison, G. Neugebauer, Martin Schwarzschild, Virginia Trimble and Fred Whipple. The increasingly popular free aviation and space fiction film series included such popular titles as "Star Wars," "The Black Hole" and "The Battle of Britain." This series will continue in FY 1985.

The Museum's publications division produced the following books in FY 1983: Vengeance Weapon 2, Prelude to the Space Age, U.S. Women in Aviation 1919-1929, Engines in Museums Around the World, Aircraft in Museums Around the World and the "Sky Interpretation Resource Bulletin." Plans currently are under way for these publications in FY 1984: Congreve and Hale Rockets, U.S. Women in Aviation 1930-1939, Five Goddard Rockets and the "Sky Interpretation Resource Bulletin." These publications are a direct result of the research efforts of the curatorial staff.

Development of Collections - In FY 1983, the following aircraft were acquired for the collection: the Bell Model 206-1L helicopter, the first helicopter to fly around the world; a Douglas A-1H; an Antonov An-2, a Russian design which is the largest biplane in operational use; a Kawanishi George, a rare World War II Japanese fighter; a Mooney Mite, the first of a line of Mooney aircraft; and a Bellanca Cruisair from the early 1940s.

Additional space artifacts acquired include: the 1962 engineering prototype of the Orbiting Solar Observatory, an Apollo Telescope Mount, a cluster of six telescopes from Skylab, a camera used in Landsat missions, memorabilia and personal items used by the crew of the first space shuttle mission, the integration test model of the International Ultraviolet explorer satellite and the NASA Lear jet infrared telescope.

The following aircraft have been restored at the Garber Facility in FY 1983: the 1912 Wiseman-Cooke, Beech 17 and the Northrop Flying Wing N1M. Plans for FY 1984 include two pre-World War I aircraft, the Maupin-Lanteri and Fowler Gage Tractor; the Whitman "Buster"; as well as an original World War I fighter, the Spad XIII. During FY 1985, aircraft scheduled for restoration include the Kikka, OS2U, Herring Curtis and HO 229. The special program begun this fiscal year to slow the deterioration of aircraft not yet restored has been very successful and will continue indefinitely.

Current plans are to open an additional building for public exhibition at the Garber Facility. The popularity of this facility continues to increase.

The recently established Department of Records Management is continuing the important and innovative task of storage and retrieval of the Museum's entire photographic collection. Over 200,000 photographic images have been transferred onto videodiscs, facilitating greater access to the collection while eliminating loss or destruction of the original photographs. Each disc is indexed with descriptive identification of each image, enhancing its use as a research tool for the general public and historians. These discs are easily and inexpensively duplicated, making wide distribution to other research institutions possible. The Museum plans to make these completed videodiscs available in FY 1984 and FY 1985. Pioneering efforts in this field have attracted international attention as a model for other museums, corporations and educational institutions for the future handling of their own photographic and specimen collections.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of 4 positions and \$195,000 is requested to purchase equipment for the videodisc project (\$45,000); and to hire a scientist, computer systems analyst, research assistant and secretary, and for research support costs (4 positions and \$150,000).

Collections Management (\$45,000) - The videodisc project of the Department of Records Management is attracting nationwide attention in the academic and industrial communities. Additional software will allow use of the NASM's computer for rapid access and retrieval of photographs on the videodisc. A videodisc printer will enable disc duplication, essential for the wide spread dispersion of data. Outside services will be contracted for mastering and editing of the completed disc. An additional reader/printer-duplicator will permit records at the Garber Facility to be read, printed and duplicated on microfiche and allow easy storage and access.

Research Support (4 positions and \$150,000) - The position of associate director of research will be filled early in FY 1984. An increase of \$150,000 is requested to cover costs associated with expanding NASM's research programs. Four additional positions are necessary to reach initial goals in this area. An amount of \$95,000 will cover the cost of: a scientist to study the geological applications of radar remote sensing, a computer systems analyst, a research assistant and a secretary.

The field of radar remote sensing is a new area of research which takes advantage of the recently developed technology in remote sensing of geologic formations by means of radar. The scientist will study and analyze the data obtained from Seasat, Space Shuttle radar and aircraft radar by remote sensing and interpret the results that will be compared with other remote sensing data and adapted for use with the Venus radar-mapper.

The position of the computer systems analyst is being requested to support the specialized software required by the Center for Earth and Planetary Studies in their remote sensing research. In addition, this analyst will be expected to facilitate access to outside databases, and develop software for research purposes in Space Science and Exploration and for installation of exhibits throughout the museum. This position is basic to the subsequent establishment of a broad research program in other departments. The research assistant and secretary are support staff for these two positions.

The additional \$55,000 will be used for the publication and dissemination of finding aids (\$10,000); for a contract covering research in the aerospace industry and related clerical support (\$15,000); and for publication of the first book in the Space Aircraft series (\$30,000).

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from a variety of sources including the Museum's share of net proceeds from the shops, restaurant and concession fees, net proceeds resulting from the bureau activities (such as the Theater and Spacearium) and a small allotment. In addition to meeting expenses of the Theater and Spacearium, these funds are used to finance fellowships, guest lecturers, symposia and special events for the opening of new exhibits. Portions of the proceeds from the Theater and Spacearium are being reserved for the replacement of the film entitled "Flyers" and for support of other Institutional programs. Currently, treatments are being considered for an IMAX film on the space shuttle funded by outside sources, as well as another film on the comparison of natural and mechanical flight, planned for viewing in FY 1985. This fiscal year will see the premiere of the new multi-image show "200 Years of Flight" in the Spacearium. These funds also support the publication costs associated with the Air and Space magazine, a quarterly publication, distributed to over 15,000 educators nationwide, containing current information on aviation and space topics for use in the classroom. Continuing annual support also is provided for the Lindbergh Chair of Aerospace History and the Chair in Space Science History for distinguished scholars at the Museum. Other fellowship programs include the Guggenheim and Verville, which support pre- or post-doctoral students in aviation or space science and other distinguished scholars to continue their research at the Museum.

Restricted Funds - Funds provided here are in the form of restricted endowments which specify the use of the donation or bequest, and of gifts and foundation grants by individuals, organizations or corporations for specific purposes. The largest examples of these funds are the Ramsey Endowment, used to finance selected research relating to naval flight history (estimated expenditures of \$27,000 in FY 1984 and \$25,000 in FY 1985), and the Guggenheim Endowment, which is used for lectures and stipends (estimated expenditures of \$34,000 in FY 1984 and \$20,000 in FY 1985).

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. Continuing funding from the National Aeronautics and Space Administration supports studies in planetary research by NASM's Center for Earth and Planetary Studies. The following research activities are funded by NASA. Funding for the analysis of Martian terrain will terminate at the end of FY 1983 (estimated expenditures of \$10,000). Photogeologic investigation, planetary terrain and thermal infrared studies funding will continue through FY 1985 (estimated expenditures of \$89,000 in FY 1984 and \$94,000 in FY 1985). Funding for the Regional Planetary Facility at NASM is expected to continue through FY 1985 and funding to study the Apollo X-ray will terminate at the end of FY 1984 (estimated expenditures of \$21,000 in FY 1984 and \$15,000 in FY 1985). Funding for the morphologic studies of the Moon is currently \$36,000 for FY 1983 and is expected to continue through FY 1984 for \$13,000. The Space Telescope Historical Project, a combined effort with the Johns Hopkins University, is funded from NASA through FY 1985 (estimated expenditures of \$28,000 in FY 1984 and \$30,000 in FY 1985).

NATIONAL ZOOLOGICAL PARK

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|--------|------------------------------------|--------|-----------------|--------|------------|--------|----------------------------|--------|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | FTP* | Amount | General | | Special Purpose | | FTP* | Amount | FTP* | Amount |
| | | | FTP* | Amount | FTP* | Amount | | | | |
| FY 1983 Estimate | 327 | 10,054 | - | 8 | - | 120 | - | 70 | 3 | 168 |
| FY 1984 Estimate | 327 | 10,577 | - | 10 | - | 114 | - | 95 | 3 | 87 |
| FY 1985 Estimate | 327 | 10,752 | - | 10 | - | 114 | - | 93 | 3 | 90 |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

| | |
|-----------------------------|----|
| Collections Management..... | 50 |
| Research Equipment..... | 50 |
| Research Support..... | 50 |
| Automation..... | 25 |

ABSTRACT - The National Zoological Park is a leading international center for animal exhibition, research, and education. The activities are conducted on the 168-acre site at Rock Creek in Washington, D.C., and the 3,150-acre site near Front Royal, Virginia. Through its programs in research, conservation, animal health, and education, the Zoo serves both the public and specialized audiences in understanding the role which animals play in the environment. For FY 1985, an increase of \$175,000 is requested to supplement the base for the purchase of animal food (\$50,000); provide replacement of equipment (\$50,000); implement a motor vehicle replacement program (\$50,000); and upgrade mini-computer hardware and related peripheral equipment (\$25,000).

PROGRAM - The National Zoological Park is charged with the maintenance and welfare of approximately 2,000 animals comprising 430 species at the Rock Creek site. Animals are selected for their value to public understanding, research and conservation. At the Conservation and Research Center at Front Royal, Virginia, 350 animals representing 46 species are housed. These animals are selected for their long-term breeding potential and generally are threatened or endangered in their natural habitat.

The Zoo has a variety of programs aimed at meeting its objectives as a public institution devoted to the care for, exhibition of, and research on the species that constitute the collection. Equally important is the study of conservation of animals in their natural habitat. The major programs of the Zoo are grouped as follows: Animal Exhibition, Animal Management, Animal Conservation and Propagation, Research, Public Education and Information, and Support Services.

Animal Exhibition - A primary concern of the Zoo is to enhance public understanding of animals and their role in the environment. To meet this need, the Zoo strives to exhibit animals in as natural a manner as possible. Sufficient opportunity

is afforded the visitor to observe animals without visual impairment and if desired to refer to concise information panels for detailed knowledge about the species, ecology, behavior and interaction with other animals. In April 1983, the Zoo reopened the Small Mammal House. The building was originally constructed in 1937 as a Depression-era Work Projects Administration undertaking. It was typical of Zoo exhibit halls of the period in which rows of small bar-fronted cages with little decoration housed a great variety of animals. The old cages have been replaced with new larger glass-fronted enclosures that will give the animals more room and will allow better viewing by the public. Forty-five species of small mammals, including cats, rodents, weasels, marmosets, foxes, shrews, and marsupials, are displayed in 35 new enclosures. Great care has been taken to create exhibits in which the animals can live comfortably and that provide attractive settings. Many living plants, as well as rocks, tree limbs, water pools, and a variety of floor surfaces, have been used in an effort to simulate the animals' natural habitats. The totally new Monkey Island exhibit, the new home for a colony of Barbary macaques, also opened in April 1983. The primates live on an island that includes a spectacular 25-foot-high bluff of natural stone, landscaped with pine trees and a waterfall that flows into a moat at the front of the exhibit.

Animal Management - The care of the animals under the Zoo's custodianship is of preeminent importance. Animal enclosures are designed with species' requirements as a major consideration. Efforts also are directed at providing modern health care facilities and offering the latest techniques in preventive and emergency treatment, surgery, nutrition, dentistry, and neonatal medicine. Comprehensive medical records are kept on all animals in the collection to ensure proper attention to all health needs.

Through the first eight months of FY 1983, the Zoo veterinarians treated 1,575 medical cases, of which 327 required hospitalization. For the same period 168 animals were quarantined for an average of 35 days each, during which time various screening procedures and examinations were performed. About one-third of the Zoo's medical cases and one-half of the anesthetic procedures are done on animals from the Conservation and Research Center, Front Royal, Virginia. In order to meet this growing demand for medical care, a hospital facility will be designed with funds sought in the Zoo's FY 1984 construction budget request. This new medical facility will provide the necessary medical, surgical and research support for the Center, and reduce the inherent risks of transferring sick animals from Front Royal to the Rock Creek facility.

Animal Conservation and Research - The goals of animal exhibition, propagation, education, and conservation cannot be met without an active research program dedicated to an understanding of the life histories of the species in the Zoo's custodianship and in the wild.

Research has indicated high juvenile mortality through inbreeding in zoos. The Zoo is working to solve this problem by demographic and genetic modeling in selected endangered species. Carefully modeled breeding programs should maintain viable captive populations of critically endangered species, such as golden lion tamarins. The Zoo will test these models in FY 1985 and expand the program to cover other endangered species in cooperation with zoos throughout the world. Zoo staff will begin laboratory studies to assess the degree of genetic relatedness of individual animals and species through blood and chromosomal analyses.

In a collaborative project with the International Environmental Science Program, the Zoo is attempting to determine whether golden lion tamarins can be returned to their native habitat in Brazil. A similar effort to reintroduce Rothchild's mynah to Bali is also in process.

Studies of the relationship between social behavior, mating systems, and ecology have continued, with emphasis on the evolution of monogamous mating strategies in birds and mammals. Variability in strength of the pair bond and paternal care of offspring has been related to species' ecology.

The Zoo also has been developing a training program in wildlife management techniques and conservation biology for biologists from tropical forest countries. Training courses have been held at the Conservation and Research Center, as well as in Sri Lanka, Argentina and Indonesia. Simultaneously, several ecological studies are being pursued, for example, of the foraging habits of migratory neotropical birds and their response to deforestation. The research department welcomed nearly 40 graduate students, post-doctoral fellows and visiting scientists in the last two years, several from overseas countries.

The training program in clinical zoological medicine provides pre-doctoral veterinary students in their final year of clinical training an opportunity to work with the Zoo's veterinary staff for a six- to eight-week period. Over the last six years, more than 45 students have received training.

Animal Propagation - The Conservation and Research Center plays an important role in the research and breeding programs for rare and endangered species. Its facilities provide a unique environment for the establishment of selected breeding programs that cannot be matched in a standard zoo setting. The Center has bred successfully such animals as zebras, Bactrian camels, Scimitar horned oryx, Pere David's deer, maned wolves, lesser pandas, binturong, and selected birds, especially cranes.

A major milestone in propagation occurred in FY 1983, when, for the first time ever in the United States, a natural mating occurred between the giant pandas, followed by a successful artificial insemination and finally a live birth. Although the cub died, techniques and behavior were carefully monitored for future study.

Public Education and Information - As a public institution, the Zoo constantly must provide innovative educational programs for the public, at all levels, in order to sensitize them to the importance of animals and conservation of the environment as well as to provide information on the myriad ways in which animals have adapted to their environment. The Zoo responds to this need by providing programs for all age levels, and in a variety of contexts ranging from guided tours, films, lecture series, and major symposia to three hands-on mini-educational facilities known as Zoolab, Birdlab and Herplab. The Herplab activities have been developed for Zoo visitors of age six and older. The materials focus on reptiles and amphibians, but the concepts conveyed are general, including: anatomy, behavior, communication, and scientific research. The Zoo also offers more academic training by providing opportunities for veterinary and biology students and interns.

Among the major accomplishments in education in FY 1983 were two major symposia for the public: one focusing on animal extinction and a second on animal communication. Two symposia are planned for FY 1984. This new outreach effort was received enthusiastically and it is hoped that this activity will be expanded in the future. Publications resulting from the symposia are disseminated widely.

Support Services - The Support Services offices are responsible for graphics, exhibits, security, operation, repair and maintenance of real property (buildings, grounds and plant equipment) and construction of new facilities at the National Zoological Park. The Zoo's Rock Creek facility consists of approximately 168 acres with 60 structures of which 18 are principal buildings, a network of over 18 miles of paths and roadways and 2.4 miles of perimeter fence. The Facilities Management Office is responsible for the maintenance and repair of all Zoo utility systems.

At the Conservation and Research Center, Support Services is responsible for approximately 3,150 acres of land, 80 facilities containing approximately 236,000 square feet of space, 2.5 miles of paved roadways, 20 miles of jeep trails and 30 miles of fences.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of \$175,000 is requested to supplement the base for the purchase of animal food (\$50,000); provide replacement of equipment (\$50,000); implement a motor vehicle replacement program (\$50,000); and upgrade mini-computer hardware and related peripheral equipment (\$25,000).

Collections Management (\$50,000) - An increase of \$50,000 is needed to compensate for increased amounts and costs of animal food. The purchase of animal food is the single largest "other objects" expenditure for the Zoo. Over the past few years, base funding for the Commissary has not kept pace with the increase in the animal population or the increase in food costs. The highly successful programs at the Conservation and Research Center have accounted for a tremendous increase in the animal population through expanded breeding programs and new births. In FY 1981, the Zoo spent approximately \$290,000 for animal food. For FY 1983, the estimated cost for food is \$400,000 or an increase of 38 percent over the period. If the upward trend in food prices continues, existing resources will not be able to keep pace.

Research Equipment (\$50,000) - An increase of \$50,000 is requested to begin a replacement program for equipment in the collections management area. Many departments are operating programs crucial to the health of the collection with equipment that is between ten and 17 years old. Some of the older equipment has been replaced but the Zoo is still behind in its overall replacement program. Obsolete video equipment needs to be replaced for closed circuit monitoring of the collection. Other equipment purchases such as a dental X-ray machine and a flexible fiber optic endoscope would enhance greatly the Zoo's veterinary care capabilities. Other needed items include large scales for new animal facilities and medical equipment for the veterinary facility at Front Royal.

Research Support (\$50,000) - An increase of \$50,000 is needed to implement a replacement program for the overaged motor vehicle fleet both at Rock Creek and Front Royal. In the first year of the program, the Zoo would purchase two small trash removal vehicles for the Rock Creek facility, two panel trucks (one for Rock Creek and one for Front Royal) and four mini pick-up trucks. In future years, this increase to the base funding level would permit replacement of between four and eight vehicles per year.

The Zoo currently maintains a fleet of over 150 vehicles of which 60 percent were acquired from government surplus. Maintaining and repairing these vehicles acquired from excess is not economical or practical in view of the age and the availability of parts for these vehicles.

Automation (\$25,000) - An increase of \$25,000 is requested to purchase mini-computers and related peripherals for the research efforts at the Zoo. One computer system will be purchased for the Conservation and Research Center at Front Royal, Virginia, and a second compatible system for the research efforts at the Rock Creek facility. Additional peripherals such as disc drives and terminals will be purchased to expand the capability of the existing mini-computer purchased in FY 1982. The computers will be used to support records management for the conservation and research programs as well as to perform statistical analyses of scientific data. The machines also will have word processing capabilities which will aid greatly in the preparation of the increasing number of manuscripts being prepared by Zoo scientists.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are derived primarily from fees for general use of the facilities at the Conservation and Research Center at Front Royal, Virginia, including use of the conference area by authorized visitors. Expenditures are made for the support and maintenance of facilities at Front Royal (estimated expenditures of \$43,000 in FY 1983, \$42,000 in FY 1984 and \$43,000 in FY 1985) and for the purchase of animals for the collection (estimated expenditures of \$43,000 in FY 1983, \$52,000 in FY 1984 and \$53,000 in FY 1985).

Restricted Funds - These are provided through gifts and foundation grants and are used to support specific research projects and educational programs. For example, funds provided from the American Association of Zoo Veterinarians are being used to support research in the areas of artificial insemination (estimated expenditures of \$15,000 in FY 1983, \$20,000 in FY 1984 and in FY 1985); and to study viruses in zoo mammals (estimated expenditures of \$12,000 in FY 1984 and \$9,000 in FY 1985). Funds from the National Geographic Society (about \$22,000 in FY 1983) and the World Wildlife Fund (about \$30,000 in FY 1983) are supporting the golden lion tamarin reintroduction program.

Federal Grants and Contracts - These are provided by various government agencies and departments for research being conducted by Zoo staff. Continuing support from the National Institutes of Health is being used to promote conservation of the wild population of primates from various countries (estimated expenditures of \$67,000 in FY 1983); and to study primate social organizations (estimated expenditures of \$35,000 in FY 1983 and \$36,000 in FY 1984 and in FY 1985). In addition, a grant from the National Science Foundation is being used to develop science education materials for families to use to learn about zoology in the informal setting of the Zoo (estimated expenditures of \$54,000 in FY 1983, \$51,000 in FY 1984 and \$54,000 in FY 1985).

ASSISTANT SECRETARY FOR HISTORY AND ART

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 9 | 382 | 1 | 94 | - | 6 | - | 1 | - | - |
| FY 1984 Estimate | 9 | 406 | 1 | 92 | - | 6 | - | 1 | - | - |
| FY 1985 Estimate | 9 | 406 | 1 | 92 | - | - | - | 1 | - | - |

*FTP = Full-time permanent positions

ABSTRACT - The Assistant Secretary for History and Art is responsible to the Secretary for the overview and management of the Smithsonian Institution's history and art activities and programs. This office also includes the Joseph Henry Papers, an editorial project to publish the manuscripts of Joseph Henry (1797-1878), the eminent American physicist and first Secretary of the Smithsonian Institution. No program increase is requested for FY 1985.

PROGRAM - The Office of the Assistant Secretary for History and Art advises and assists the Secretary in overseeing the activities of the Smithsonian history and art bureaus. The Office also coordinates and manages Institution-wide special projects, programs, exhibitions and publications commemorating significant historical events and individuals; administers the Regents' Collections Acquisition Program, which was established to facilitate the purchase of major acquisitions by Smithsonian museums; administers the Major Exhibition Program; and oversees the publication of books and guides to the history and art collections. The bureaus and offices reporting directly to the Assistant Secretary for History and Art are: the Archives of American Art (in New York and other cities); the Cooper-Hewitt Museum in New York City; the Center for Asian Art, consisting of both the Freer Gallery of Art and the Sackler Gallery of Art; the Hirshhorn Museum and Sculpture Garden; the National Museum of African Art; the National Museum of American Art; the National Museum of American History; the National Portrait Gallery; the American Studies Program; the Joseph Henry Papers Project; and the Anacostia Neighborhood Museum. The Office of the Assistant Secretary for History and Art also has a responsibility for overseeing the program development and administration of the Center for African, Near Eastern and Asian Cultures. This new cultural complex, which is scheduled for completion in FY 1986, will house the National Museum of African Art and the Sackler Gallery of Art as well as provide space and facilities for research, conservation, education and international scholarly conferences.

Joseph Henry Papers - Since 1968, the editor and staff of the Joseph Henry Papers Project have been gathering, researching and preparing for publication a select 15-volume letterpress edition, supplemented by a microfilm edition of the Papers. These Papers, which consist of approximately 80,000 documents, have been collected over the years by the project staff. Four volumes of the 15 volumes of Henry's lectures already have been published by the Smithsonian Institution Press. The fifth volume went to the Press in FY 1983. As the staff continues to search for additional manuscripts, work on the sixth volume began in FY 1983 which chronicles the last

years of Henry's tenure at the College of New Jersey (Princeton) and his selection to head the Smithsonian Institution. Completion of the editorial work on this volume is now anticipated in FY 1985. Work on a supplementary microfilm edition is proceeding and progress continues to be made.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided primarily by allotments and are used to pay the salary and expenses of the Assistant Secretary for History and Art, memberships for the Institution in the American Council of Learned Societies and the American Crafts Council; and expenses associated with directorship search committees. In FY 1983, funds were used to defray expenses associated with the Archives of American Art directorship search committee and, in FY 1984, the Hirshhorn Museum and Sculpture Garden directorship and the Sackler Gallery of Art assistant directorship search committees. Special Purpose funds in FY 1983 provided editorial assistance for the Finders' Guide to Decorative Arts in the Smithsonian Institution, which will be published in FY 1984.

Restricted Funds - In FY 1985, the Joseph Henry Papers Project anticipates support from the National Academy of Sciences to help defray the cost of editing the Papers.

NATIONAL MUSEUM OF AMERICAN HISTORY

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|--------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 287 | 9,297 | 1 | 139 | 1 | 179 | 1 | 395 | - | 2 |
| FY 1984 Estimate | 287 | 9,679 | 1 | 91 | 1 | 222 | - | 332 | - | 5 |
| FY 1985 Estimate | 293 | 10,531 | 1 | 91 | 1 | 225 | - | 580 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Collections Management.....127
Automation.....100
Constitution Bicentennial.....100

ABSTRACT - The National Museum of American History (NMAH) collects and preserves artifacts which represent this country's material heritage and provide the basis for its extensive educational programming. Through a major reinstallation of its permanent exhibits, expanded educational programs, and continued research and publications, the Museum offers visitors a unique and varied presentation of the history of the United States. In addition to exhibits in the NMAH building, the Museum maintains the exhibition "1876 Centennial," located in the Arts and Industries Building.

For FY 1985, an increase of 6 positions and \$327,000 is requested to hire two conservators and three technicians and fund selective storage equipment upgrading (5 positions and \$127,000); hire a database administrator and provide additional computer time necessary for collections management and research applications (1 position and \$100,000); and research and plan for an exhibit, symposium and publication on "The Constitution as a Living Document," to commemorate the bicentennial of the signing of the United States Constitution (\$100,000).

PROGRAM - The National Museum of American History presents diverse programs to interpret and illustrate the Nation's history. Exhibitions, performances, special celebrations, and education programs provide the nearly five million visitors each year with an opportunity to understand American history through artifacts of our cultural heritage. People who cannot directly participate in the museum experience are reached through a variety of services and activities that go beyond the Mall. Publications and lectures to university and collecting audiences describe the collections and explore scholarly themes in American history. Loans of objects--nearly 500 in FY 1983--help museums in other cities produce exhibits on a variety of cultural and technological themes. The Museum staff also shares its expertise with other institutions, providing advice and direct assistance on a range of operations, including exhibits development, collections management, and administration.

At the center of the Museum's effort to articulate themes in American social, cultural, industrial and scientific history are the collections themselves. The Museum, therefore, has another essential function beyond the presentation of American history--that of providing for the preservation and care of the collections in its role as a National Museum. The Museum continues to emphasize this dual responsibility with major long-range goals that will direct its activities over the next five to ten years: the completion of a comprehensive automated system which will be directed first toward more effective management of the collections, and the reinstallation of the permanent exhibit spaces to present visitors with a fresher and more cohesive view of American history and culture. The Museum made substantial progress toward meeting goals in both areas in FY 1983.

Under an accelerated program, the Museum completed the shelf inventory of its collections in June 1983. The Museum will concentrate now on the continued maintenance of the inventory, adding new accessions and recording changes of location or status such as for loans and exhibitions. In the next few years as well, the staff will refine and expand the information gathered during the shelf survey, adding descriptive data from registrarial and curatorial files to create a single base of detailed information on each object or group of objects in the collections. This consolidated body of information will give the Museum optimum control over its collections as well as provide better opportunities for study, for developing exhibitions, and for responding to public inquiries about the collections.

The Museum's progress toward achieving the comprehensive collections management system begun with the shelf inventory was enhanced by the installation of an in-house minicomputer system. This system eventually will provide direct access to the collections data by curatorial staff for updating the information as well as for control and study of the collections and will streamline administrative record-keeping for general management use. In future years the minicomputer will allow use of the expanded descriptive and cultural information produced by the continuing inventory for development of automated visitor information systems (describing scheduled events and new exhibits), providing access to certain object information, and speeding up responses to the almost 100,000 inquiries about the collections received from the public each year.

In addition to the increased control over the collections gained by the inventory, the Museum has initiated a long-range program to improve the physical care, preservation and security of the collections. In FY 1983, the NMAH Archives Center began operation with the hiring of an archivist and redirection of current staff to this facility. The process of consolidating documentary collections from throughout the Museum has begun with the relocation of the Warshaw Collection and certain photographic collections to the Archives. Over the next several years, work will continue to reorganize and rehouse these items, creating finding aids (including inventories) and providing systematic conservation treatment, to gain better control over the more than 400 archival collections and to provide better care and conditions for their use by scholars and staff.

Progress also was made in improving the security and care of three-dimensional holdings in the Mall building and at the Silver Hill storage facility. In FY 1983, the Museum initiated a systematic survey of the conservation treatment and storage improvement needs of the collections. At the Mall building, the security of valuable collections such as philatelic materials has been improved, with a tightening of access to the collections. Beginning in FY 1984, the Philatelic and Numismatic Collections will be reorganized into more logical arrangements for study and management and will be rehoused and reinventoried in secure and compact storage units.

At Silver Hill, the renovation of the buildings continued in FY 1983. A recently completed study to determine the extent of asbestos contamination at Silver Hill indicates a need for implementing stricter procedures for handling objects and for fully cleaning them and the spaces they occupy. Plans will be implemented in late 1983 and early 1984, that will allow collections work to continue while creating a suitable environment for the collections and staff. The establishment of an Objects Processing Facility at Silver Hill in FY 1984 will coincide with improvements to the buildings, providing increased control over the objects stored at the facility. With the occupancy of the Museum Support Center conservation laboratory in the summer of 1983, and the storage spaces beginning in 1984, the Museum will pursue its commitment to improving the physical care of the collections.

In FY 1983, the Museum continued an active program to interpret and illustrate new themes in American history through renovation of its permanent exhibitions and presentation of special exhibits, performances and educational programs. While substantial work was done prior to opening several new permanent exhibitions, the Museum produced a number of special temporary exhibits dealing with historical, cultural or technological themes not developed fully in the present installations. "Gifts of Glass" illustrated various glass making techniques of the early 20th century; "Building Brooklyn Bridge" commemorated the centennial of the opening of this innovative structure; "Gum and Carbon Prints" demonstrated 19th-century photographic processes still used today to alter the realistic quality of prints for artistic effect; "Fat and Lean" displayed early wooden letter type; "Worker's World: Industrial Village and Company Town" (developed and produced by the Hagley Museum) depicted the differences in life style and work experiences of workers leaving their homes for the industrial centers; and "M*A*S*H: Binding Up the Wounds," produced in cooperation with 20th Century-Fox Film Corporation, documents this program's substantial contribution to the field of entertainment in television and also examines aspects of military and medical history presented through this series. An exhibit on pain, its cultural basis and its relief through anesthesiology will open in September 1983, supported by a donation from the American Society of Anesthesiologists.

In May 1984, the first in a series of three permanent exhibitions will open to begin the revitalization of the second floor. "After the Revolution: Life in America" will present a reinterpretation of everyday life in the new republic, to be followed by subsequent installation in FY 1986 and FY 1988 to illustrate the life of the everyday person in the United States up to the present time. The reinstallation of the first floor will begin with the opening in FY 1985 of an introductory exhibition on American industrialization and an exhibit highlighting the cultural dimension of science in the United States, and will continue in 1986 with an introductory exposition on the materials of which the Museum's artifacts are made.

A significant addition to the Museum's mission and staff occurred in FY 1983 when the Federal staff of the Smithsonian's Division of Performing Arts joined the NMAH to research and produce programs of distinction in American music--all in a context of their contribution to American history and culture. The 1983 performance season included concerts by the Smithsonian String Quartet playing period music on 18th-century instruments, led by world-famous violinist Jaap Schroeder; performances by Chet Atkins and Jethro Burns; a program on the art of George Balanchine performed by Edward Villella and his dancers; and a jazz tap improvisation demonstrated by master dancers Jimmy Slyde and Steve Condos with Slide Hampton and his orchestra. Two weekend tributes were held to honor Reverend William Herbert Brewster, pioneer composer of black American gospel music, and the Memphis Blues tradition, featuring B.B. King and Memphis Slim, among others. The Doubleday Series centered around the theme of

"Arts, Letters and Americans," and featured talks by Studs Terkel and Eliot Wigginton, lectures and illustrative performances by Arthur Mitchell and the Dance Theater of Harlem, and S. Frederick Starr and the Louisiana Repertory Jazz Ensemble, and a reading of literary classics by Eudora Welty, C. Van Woodward and Walker Percy.

The FY 1984 performance season will feature concerts of the Smithsonian Chamber Players and the Smithsonian Chamber Orchestra in collaboration with the Resident Associate Program. The Black American Culture Program will present important contributions made by black women to black gospel and blues music, with programs honoring Lucie E. Campbell, the first published woman composer of black gospel music, and illustrating the blues singing tradition. The holiday celebration will highlight the German heritage of Americans as expressed in the Christmas and Hannukah traditions. In FY 1984, the Doubleday Lecture Series theme "Americans--On Stage" will feature David McCullough with an accompanied talk on the Brooklyn Bridge: a dramatic reading of "Goodly Creatures," a recent play by William Gibson; a performance of the music of Busby Berkeley by Jack Betharts and a 40-piece orchestra; and an evening of Rogers and Hammerstein music. The refurbishment of the area adjacent to the Ice Cream Parlor into a Victorian "Palm Court" will provide additional space in the Museum for the presentation of programs on American music.

Research on a variety of topics in social and technological history at NMAH culminated in the publication of several books and exhibit catalogues during FY 1983: Islamicate Celestial Globes, a detailed catalogue of the extant globes used to chart the stars; The Hammered Dulcimer in America, the first comprehensive study of this folk instrument; Planispheric Astrolabes in the National Museum of American History, a catalogue of the 47 examples of this navigational instrument in the Museum's collections; American Locomotive Builders: A Short History, a comprehensive business history of United States firms who built locomotives from 1830 to 1960; New England Mill Village 1790-1860, a collection of documents describing the life and business growth of New England textile towns in the late 18th and early 19th centuries; and M*A*S*H: Binding Up the Wounds, a catalogue to accompany the exhibit. A number of other publications are nearing completion, including a four-volume biography of George Marshall, a scholarly bibliography of numismatic works, and a study of the development of Afro-American communities in ten northern cities before the Civil War. The Museum also continued to provide editorial guidance as well as regular scholarly contributions to Technology and Culture, the official journal of the Society for the History of Science and Technology.

Additions to the Museum's collections in FY 1983 included the purchase of an enameled tea kettle, made for advertising purposes in the 1870s, a rare marked example of an item commonly used in American households in the late 19th and early 20th centuries; a white cotton hand-knitted petticoat dated 1722, a masterpiece of the knitter's art as well as an important costume artifact; 90 Perkins Electric sketches and watercolors, ca. 1885, relating to the work of the black electrical draftsman and inventor, Lewis Howard Latimer (1848-1928); "The Autoperipatetikos," ca. 1862, an early example of an American automaton complete with original clothing, packaging and directions--the first American automaton the Museum has been able to acquire; a portable electrostatic globe machine, ca. 1760, one of only two known to exist of this construction, used in early experiments with frictional electricity; and an American Eagle sewing machine, 1855, the first known example of this type. Significant gifts include an electric kiln owned and used by Gertrude and Otto Natzler, American studio potters, who brought the kiln with them from Austria to America in 1938 where it played an influential role in American ceramics; armor and armor costume worn by Francis X. Bushman, an important performer in the 1926 production of Ben Hur; sunglasses and glasses case used by Eleanor Roosevelt and a pincenez used by Franklin D.

Roosevelt, both association pieces of historical importance; the Budweiser rocket, a jet-propelled car which was the first land vehicle to exceed the speed of sound; an 1878 bandstand in excellent condition from Jacksonville, Illinois, which was used for weekly concerts up until the First World War and will be installed on the west grounds of the Museum to be used for live performances once again; the medical kit used at the autopsy on the body of Abraham Lincoln; and a Viennese concert grand piano ca. 1815, a rare and beautiful instrument in original condition, reputed to have been owned by Beethoven, which fills a gap in the Museum's collections of European instruments.

In FY 1984 and FY 1985, the emphasis in collecting by the Museum will be on acquiring significant artifacts representing 20th-century culture and technology for use in the development of new exhibitions, such as automation machinery and other labor-saving devices, and objects documenting the social and cultural history of minority groups in America.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of 6 positions and \$327,000 is requested to hire two conservators and three technicians and fund selective storage equipment upgrading (5 positions and \$127,000); hire a database administrator and provide additional computer time necessary for collections management and research applications (1 position and \$100,000); and research and plan for an exhibit, symposium and publication on "The Constitution as a Living Document," to commemorate the bicentennial of the signing of the U.S. Constitution (\$100,000).

Collections Management (5 positions and \$127,000) - The recent inventory has focused attention on the need for conservation of the collections, both to restore intrinsically and historically valuable objects to a condition in which they can be exhibited and studied, and to arrest further deterioration of objects in danger of irretrievable damage. The Museum has over 145,000 aesthetically and historically important prints, drawings and photographic images. A number of surveys have indicated that over 90 percent of these materials needs the attention of specialized conservators or skilled technicians to make them safe for use by researchers, for exhibitions and for their long-term preservation. This mammoth task is being planned as a long-range, phased project in which those items which are most valuable and most urgently need treatment will be identified and treated systematically. The Museum requests \$35,000 for both an assistant paper conservator to carry out this work and a technician to assist professional staff in routine aspects of this work. In addition, the physical care of the extensive and diverse collections now being assembled under the Archives Center are beyond the capacity of the conservation staff. Unless this work can be done, however, large portions of these collections will remain unusable by staff and scholars. The Museum requests the addition of 1 position and \$22,000 for an archival conservator to provide specialized guidance in the storage, handling and treatment of fragile collections such as the Warshaw Collection, the N. W. Ayers Company card collection, and the Clark Collection on the history of radio.

The second area of collections management to which the Museum will direct its attention in FY 1985 is that of improving the security and physical conditions of its stored collections on the Mall. The shelf inventory of the Museum's collections has brought to light a number of instances in which collections are stored insecurely or where overcrowding and exposure to dust and light are contributing to the gradual deterioration of objects. As a result, the Museum has developed a plan for adding or replacing open shelving and old, worn or unlockable cabinets with standardized equipment designed by Museum staff. The move of large numbers of objects to the Museum Support Center beginning in 1984 will ease the overcrowded condition of storage areas

at the Museum of American History. This will provide the Museum with an excellent opportunity to reorganize and rehouse the collections that remain on the Mall, to ameliorate unsafe and unsecure conditions, and to make them more accessible for work and study by staff and scholars. The total cost of the storage equipment needed is estimated currently to be \$260,000 which can be spread over the next five years. The Museum requests an increase of \$40,000 to augment current base resources of \$10,000 to accelerate the phased purchase of the equipment to correct the most serious deficiencies. In addition to the equipment needed to upgrade the physical storage of collections, staff is required to address some of the special security and storage needs of the Museum's valuable collections of stamps, coins and paper money. A museum technician (\$15,000) is requested to serve as vault custodian for the National Philatelic Collections in order to provide constant surveillance on these highly valuable, easily portable collections. A museum technician (\$15,000) also is needed to assist in the rearrangement, labeling, cleaning, and re-storing of the National Numismatic Collections. This work is required urgently in order to maintain strict control over these important collections in line with the inventory, as well as to assure safe storage of these delicate objects.

Automation (1 position and \$100,000) - The National Museum of American History has, over the past several years, begun to apply computer technology to the major program areas of the Museum: collections management, registrarial functions, research and publications, exhibitions and support services. The Museum developed a computer services center in FY 1975 to serve as liaison with the Institution's Office of Information Resource Management and to provide further assistance to Museum users of automated systems. The recent expansion of the collections-related computer database during the Museum's collections inventory (from approximately 45,000 automated records in FY 1978 to over 600,000 records by the end of FY 1983) created a tremendous increase in the use of computer time and underscored the benefits to be gained by further application of automation in the fields of collections management and research.

The reconciliation of existing curatorial and registrarial records with the inventory data developed during the shelf inventory (the next vital step toward total control over the Museum's collections) will depend heavily on the management, manipulation and revision of the information contained in the database. Due to the tremendous expansion of both the size of the Museum's automated files and the expanded data management needs in support of collections management, research, exhibition development and public inquiries, the database administration tasks have increased dramatically. In order to continue the refinement and coordination of these automated systems, the establishment of a position of database administrator (1 position and \$35,000) is requested. An additional amount of \$65,000 is sought to purchase the computer time necessary for the corresponding ADP applications.

Constitution Bicentennial (\$100,000) - The National Museum of American History has begun to develop plans to commemorate, in 1987, the bicentennial of the signing of the United States Constitution. The theme of the "Constitution as a Living Document" would be emphasized through an exhibit, symposium and publication to highlight the anniversary. Integrated with the ten-year major reinstallation program of the Museum, the exhibit would examine the history of the 442nd regimental combat team of World War II (comprised of Japanese Americans) and the history and experience of these soldiers, and American civilians of Japanese heritage during the War, as a centerpiece for a larger exposition about the U.S. Constitution.

A symposium that would focus on the issue of civil rights and the Constitution also is planned. Historians, political scientists and members of the legal profession would address this theme, both in the symposium and in the publication of the proceedings.

The requested increase for FY 1985 would support the research and planning of the exhibit, symposium and publication. Funding to be requested in FY 1986 and FY 1987 would allow for the construction and installation of the exhibit and to cover the symposium and publication costs.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from a variety of sources including the Museum's share of sales in the museum shop, cafeteria and bookstore, royalties, and interest earned provide most of the income. The Institution, through its collections acquisition, scholarly studies, fluid research and educational outreach programs lend financial support as well. All of these funds have helped to support Museum programs in areas such as affirmative action, scholarly publications, acquisitions and research. Of special note was the receipt of educational outreach funds to support the development of a journal on Afro-American issues and research funds to begin plans for an Afro-American migration exhibit. Trust funds also support special events, including the Museum's 20th anniversary celebration taking place in January 1984, and musical weekend events. Funding for the position of the Museum Director is provided from these sources as well.

Restricted Funds - Individual or corporate gifts and foundation grants are the principal sources of income under these funds. The Museum received a number of individual and corporate gifts in FY 1983. Of particular note are a contribution from Dr. Hans Syz for publishing a ceramic collection catalogue (estimated expenditures of \$30,000 in FY 1983); a gift from the Edison Electric Institute for the purchase of a (ca.) 1760 portable electrostatic globe machine (estimated expenditures of \$15,000 in FY 1983); and a gift from Sears, Roebuck and Company to help complete work on rehabilitation of the Flag Hall (estimated expenditures of \$28,000 in FY 1984). In FY 1983, a number of exhibitions and special projects received corporate and foundation support. In FY 1984, the Morris and Gwendolyn Cafritz Foundation awarded the Museum a \$165,000 construction grant to finance the movement of the Alexander Calder stabile from the west side of the Museum to the corner of 14th Street and Constitution Avenue and to put in its place an 1878 bandstand from Jacksonville, Illinois. In FY 1983, 20th Century-Fox, Inc., awarded the Museum a \$50,000 gift and support for an exhibition and other events concerning the television show M*A*S*H. This exhibit includes two sets from the show, the Operating Room and the Swamp, as well as artifacts, photographs, costumes and other related material. The American Society of Civil Engineers and Citibank Corporation were major supporters of an exhibition on the Brooklyn Bridge (estimated expenditures of \$43,000 in FY 1983). In FY 1983, the majority of funds received from the Ford Foundation for support of the Museum's Affirmative Action program were used to establish several administrative and research positions that provided minorities with first-hand experience in museum programs (estimated expenditures of \$105,000 in FY 1983 and \$18,000 in FY 1984). Funding is being sought for the audio-visual, tour and performance related portions of the exhibition "Life in America" (estimated expenditures of \$170,000 in FY 1984 and \$184,000 in FY 1985). In FY 1985, funds will be solicited for support of the exhibit "Field to Factory: Afro-American Migration 1915-1940" (estimated expenditures of \$125,000 in FY 1985). The Museum also is seeking funds in FY 1985 to revitalize the "Ceremonial Court" (estimated expenditures of \$130,000 in FY 1985).

NATIONAL MUSEUM OF AMERICAN ART

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|--------|------------------------------------|--------|------|--------|------------|--------|----------------------------|--------|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount |
| FY 1983 Estimate | 106 | 4,215 | - | 26 | 1 | 131 | - | 212 | - | - |
| FY 1984 Estimate | 106 | 4,390 | - | 38 | 1 | 129 | - | 428 | - | - |
| FY 1985 Estimate | 107 | 4,495 | - | 38 | 1 | 203 | - | 214 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Collections Management..... 80
Automation..... 25

ABSTRACT - The National Museum of American Art (NMAA), this country's oldest national art collection, is devoted to the acquisition, preservation, study, and exhibition of American painting, sculpture, graphic art, and crafts. Established in 1829, the collection since then has borne a number of successive names and from 1937 to 1980 was designated the National Collection of Fine Arts. The change to the present name in 1980 reflects the Museum's principal focus on American art. The Renwick Gallery, established in a separate building in 1972 under the purview of NMAA, displays American crafts, decorative arts, and designs, as well as exhibitions from abroad. Also, the Barney Studio House, with a part-time curator paid from an endowment, is maintained by NMAA as a period home open for tours and for special interpretative programs. For FY 1985, an increase of 1 position and \$105,000 is requested to provide partial funding of the cost of a new vacuum hot table in the conservation laboratory shared with the National Portrait Gallery, finance outside conservation contracts, and upgrade storage equipment (\$80,000); and to hire a museum technician to edit computer research databases and create standardized entries for artists' names, subject headings, and titles of works of art (1 position and \$25,000).

PROGRAM - NMAA's collection seeks to represent American art from its beginnings to the present and serves as the basis for active programs of exhibition, research, and public education. NMAA's publications have become basic texts for reassessment of the art of America's past, and its exhibitions have brought new appreciation for American artists of both the past and present. The Museum has maintained close contact with art centers in this country and abroad and has encouraged the study of American art through its fellowship and intern programs. Continuing emphasis will be placed on extending nationally the availability of the Museum's resources by increasing research and scholarly publications, making the collection more accessible outside Washington, D.C., circulating more exhibitions organized by NMAA, and arranging for the publication of the Museum's research indices in American art.

The recently completed Smithsonian-wide inventory confirms that there are 30,418 works of art in NMAA's permanent collection as of June 30, 1983, a number which continues to grow at a rate of approximately 1,000 new works each year. Two directions in collecting have recently been given new emphasis. With a transfer of over 1,300 photographs from the National Endowment for the Arts, NMAA now has a major collection of works by noted American photographers of the 1960s and 1970s and the Museum's attention to photography will increase during the coming years. With gifts both by individual craftsmen and donors, NMAA's collection of contemporary American crafts has been substantially augmented and will be placed on permanent display at the Renwick in the near future.

The resources of NMAA's permanent collection will be shared through temporary exhibitions drawn from it, and through a comprehensive reinstallation of the Museum's galleries which is currently under way. That reinstallation will result in a chronological and more coherent arrangement of the collection, enabling visitors easily to find works of particular interest and to grasp the full development of American art. Recent temporary exhibitions of holdings from the permanent collection have included the paintings of noted black artist William H. Johnson (1901-1970), the lithographs of the early modernist Louis Lozowick (1892-1973), and an exhibition of the work of the sculptor Paul Manship (1885-1966). An exhibition of American photographers of the 1960s and 1970s drawn primarily from NMAA's holdings is planned for the future.

One noteworthy project currently being explored for FY 1985 is the organization of a touring exhibition of 100 masterworks or "treasures" from the collection of NMAA--including paintings, sculptures, and graphic arts--which will be seen in six cities across the United States. The tour, to be supported from the private sector, will be accompanied by a major book on the Treasures of the NMAA, which also will be marketed nationally. In another publication set for release in the fall of 1983, the Museum's collection will for the first time be available to libraries, institutions, and scholars in a Descriptive Catalogue of Painting and Sculpture in the NMAA published by G. K. Hall & Co. of Boston. Another project under way will offer the Museum's significant non-American art works on long-term loan to selected university galleries and museums around the country. Many of these works were acquired by the Museum (prior to its name change reflecting its principal focus on American art) as restricted gifts and this program will ensure their continued exhibition for study and appreciation by the public.

NMAA's resources comprise not only works of art but also invaluable research and reference materials utilized by scholars throughout the country. These resources include three unique art indices: the Inventory of American Paintings Executed Before 1914, which began as a Bicentennial project and now has over 230,000 items catalogued by computer; the Smithsonian Art Index, which lists approximately 200,000 items of art housed in the Institution's nonart museums; and the Index of Pre-1877 American Art Exhibition Catalogues, which comprises some 130,000 computer entries disclosing artists' activities, regional characteristics, patronage preference, and works which have been lost. Another unique research holding is the Peter A. Juley Collection of 127,000 negatives taken over an 80-year period by the noted New York photographer of many works by American artists; completion of the ongoing project to convert the deteriorating nitrate film in the collection to a stable film now has been assured through the generosity of private donors. NMAA has, for general reference and research purposes, 170,000 slides and photographs which are on a computerized file and over 75,000 negatives and slides which are being entered on the

computer data bank. The library, with 45,000 volumes, serves NMAA, the National Portrait Gallery, and the Archives of American Art, as well as local and visiting scholars and students, and other Smithsonian bureaus. During FY 1983, the library will answer an estimated 3,900 reference questions received by mail, telephone and in person.

In its exhibition program, NMAA will continue its emphasis on reexamining works by American artists who have been neglected in the past and on exploring regional aspects of American art. The Renwick Gallery will provide opportunities for exhibition of works by American craftsmen and for the presentation of new ideas, approaches, and techniques in the crafts media. Approximately 20 temporary exhibitions--not including rearrangement of the permanent collection galleries--open at the NMAA and the Renwick each year. With each major exhibition organized by NMAA, a substantial catalogue or publication is produced, and when the exhibitions are of important national or regional interest, they are offered on tour to other museums. During FY 1983, the Museum circulated six such exhibitions to 13 museums in the United States. Plans are in progress to expand this valuable outreach program.

As a national museum, NMAA is in a unique position to study regional aspects of American art. In FY 1984 and FY 1985, the following exhibitions will deal with or treat regional themes: "Provincetown Painters: A Woodcut Tradition"; "The Capital Image: Painters in Washington, 1800-1915"; "Sawtooths and Other Ranges of Imagination: Contemporary Art from Idaho"; and "The Art of Taos and Santa Fe: Context and Meaning."

The Renwick Gallery, as part of its exhibition program, continues to show the work of individual American craftsmen and to survey broad areas of craft and design trends. Exhibitions during FY 1984 and FY 1985 will feature the work of furniture and industrial-designer Russel Wright; glassmaker Harvey Littleton; art nouveau designer Edward Colonna; and weaver Anni Albers. Other exhibitions, such as "Chicago Craftsmen Furniture" and "The Pottery and Crafts of Newcomb College," will review important crafts movements in the United States from an historical perspective. The Renwick also functions as a showcase for staging exhibitions from foreign countries or of international importance; among these will be exhibitions of contemporary ceramics from Australia and ten centuries of icons from Bulgaria.

In cooperation with the National Portrait Gallery, NMAA has spearheaded the promotion of "Gallery Place," a name adopted from the adjacent Metrorail stop. Long isolated from the tourist traffic enjoyed by the museums on the Mall, NMAA and NPG have taken advantage of their location next to the subway and just one block south from the newly-opened Washington Convention Center to publicize their unparalleled resources, services and collections to a national audience. The publication of a free, informational brochure on the museums at Gallery Place for distribution to convention groups, the production of billboards and banners outside the museum advertising the two museums as "the Smithsonian Institution at Gallery Place," and the design of public-service Metro signs and backlighted posters are all part of an aggressive campaign to bring the museums to the attention of a broader new public.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of one position and \$105,000 is requested to provide partial funding of the cost of a new vacuum hot table in the conservation laboratory shared with the National Portrait Gallery, finance outside conservation contracts, and upgrade storage equipment (\$80,000); and

to hire a museum technician to edit computer research databases and create standardized entries for artists' names, subject headings, and titles of works of art (1 position and \$25,000).

Collections Management (\$80,000) - Although NMAA's staff of painting conservators is near maximum strength, the existing conservation laboratory, shared with the National Portrait Gallery, is ill equipped and poorly designed for space utilization. An amount of \$10,000 is needed for the remodeling of current laboratory space to produce a better designed work environment for which \$30,000 is requested for conservation laboratory equipment: a new vacuum hot table (\$15,000 of the total cost of \$28,000 is requested by the Museum, with the balance of the cost requested by the National Portrait Gallery); a fume hood (\$8,000); and storage cabinets for painting (\$7,000).

Funding for the new vacuum hot table is urgently sought to replace a malfunctioning, 20 year old, 8' x 12' heat table currently shared by NMAA and NPG conservators. Repairs to the table have met with limited success and this piece of equipment is crucial in the conservation of paintings. Through the use of heat and creation of a vacuum, conservators are able to remove or attach cloth lining to reinforce old paintings for subsequent surface conservation. Heat from the table softens the adhesive used to attach the lining and the vacuum holds the materials together while the adhesive is activated. A new vacuum hot table also would allow use of the equipment by paper conservators with the attachment of a humidity chamber.

Conservation work has become such a backlog that NMAA has been forced to resort to contract work on emergency projects. In particular, sculpture and paper conservation have been neglected, though the Museum houses a collection particularly significant in 19th-century marble sculpture and in prints and drawings of all periods of American art. Unfortunately, the serious lack of space in the AA/PG Building precludes the Museum's undertaking work on sculpture at the present time; however, \$10,000 is sought for a survey of emergency conservation needs for the sculpture collection.

Of NMAA's 16,000 works on paper, 95 percent require some form of conservation. With the transfer last year to NMAA by the National Endowment for the Arts of over 1,300 photographic prints by important American photographers, which will form the basis of a new direction in collecting for NMAA, the need for paper conservation becomes acute. Adequate safe storage for the burgeoning graphics collection also is a problem which must be resolved. To ameliorate these situations, \$15,000 is sought for paper conservation on a contract basis, and \$15,000 is requested for storage racks, bins and cabinets.

Automation (1 position and \$25,000) - If automated information is to be retrieved effectively, it is essential to develop and impose standards or "authority formats" to ensure a consistent cross-referencing ability. One major necessity for NMAA's art information data base is an authority format for artists' names and bibliographic information.

In coordination with the Office of Information Resource Management's Institution-wide automation plans, the NMAA's objective of making its unique art data bases accessible to the scholarly community as well as the general public will require additional staff to research, edit and standardize its data records. The addition of a museum technician in FY 1985 will be needed to identify, verify, and standardize bibliographic information. Based on a record count of 500,000 entries, this intensive editorial work will require three years of effort.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from many different 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 NMAA exhibitions are lent; and tuition reimbursement from universities for NMAA interns. Funds are used for the support of publications, exhibitions and public programs; curatorial research and travel; stipends for summer interns; purchase of photographic supplies; travel costs for meetings of the NMAA Commission; repairs to 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 will be used to continue the preservation project of the Juley Collection until its anticipated completion in FY 1989 (estimated expenditures of \$50,000 each year). Under the Smithsonian's Collections Acquisition, Scholarly Studies, and Education Program, NMAA in FY 1983 received \$450,000 for the purchase of "Subsiding of the Waters of the Deluge," an important 1829 landscape by Thomas Cole, the father of the Hudson River School.

Restricted Funds - These are contributed for specific purposes in the form of gifts and grants from individuals, foundations and corporations. Funds are available to support curatorial and programmatic activities of the Barney Studio House (expenditures of approximately \$35,000 annually). The balance of the Samuel H. Kress Foundation grant (\$70,000) will be spent in FY 1984 for the preservation of the Peter A. Juley Collection of historic negatives. From the Robert Tyler Davis bequest, prints and drawings will continue to be purchased for the permanent collection (estimated expenditure of \$10,000 annually). Other significant uses of restricted grants and gifts (total estimated expenditures of \$94,000 in FY 1984) 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, videotapes, and other activities of specific exhibitions, including "The Capital Image: Painters in Washington," "Contemporary Art from Idaho," "Retrospective of the Work of Anni Albers," "Life: The Second Decade," and a touring exhibition of "Treasures of the NMAA." In FY 1985, funds will be used to refurbish the Doris M. Magowan Portrait Miniature Gallery and for portrait miniature acquisitions (estimated expenditures of \$36,000). If anticipated gifts and foundation grants are received, total estimated expenditures of \$182,000 in FY 1984 and \$110,000 in FY 1985 will be expended for a variety of public programs in support of exhibitions and other museum outreach activities.

NATIONAL PORTRAIT GALLERY

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 76 | 3,033 | - | 130 | - | 104 | 3 | 230 | - | - |
| FY 1984 Estimate | 76 | 3,185 | - | 58 | - | 87 | - | 201 | - | - |
| FY 1985 Estimate | 78 | 3,302 | - | 18 | - | 50 | - | 146 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Collections Management..... 87
Collections Acquisition..... 30

ABSTRACT - The National Portrait Gallery (NPG) was established by Act of Congress in 1962 (20 U.S.C. 756) as a museum for the exhibition and study of portraits depicting men and women who have made significant contributions to the history, development, and culture of the people of the United States. For FY 1985, an increase of 2 positions and \$117,000 is requested to provide partial funding of the cost of a new vacuum hot table in the conservation laboratory shared with the National Museum of American Art, hire a conservator and a registration technician, and purchase conservation supplies (2 positions and \$87,000); and to increase the annual funding for the purchase of objects for the collection to \$377,000 (\$30,000).

PROGRAM - The National Portrait Gallery's mission is the study and presentation of American history through the lives of men and women who have contributed significantly to its development, as depicted in a carefully selected collection of portraiture. The arts of portraiture and biography are the means through which the Gallery offers a continuing exploration of the American people's heritage and accomplishments. The Gallery collects, studies, preserves, and exhibits portraits in all media as both historical and artistic documents.

The Gallery, opened in 1968, has as its most fundamental activity the building of a collection which is both artistically worthy of its mission and historically representative of the sources and qualities of American culture. Building a collection includes continuing responsibility for thorough research and careful conservation of the objects acquired. Research results are published by curators and historians in articles, monographs, and exhibition catalogues. The collections are exhibited continuously in a series of galleries arranged both chronologically and thematically and 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 is accompanied by an illustrated catalogue and usually incorporates materials borrowed from museums throughout the country and abroad.

In FY 1983, the Gallery purchased 72 portraits with appropriated funds and obtained 284 others by gift or transfer. At the National Portrait Gallery Commission meetings in FY 1983, acquisition was recommended for many works, including portraits

of John Frazee, the first native-born professional sculptor (a self-portrait in plaster), "Washington Irving and His Literary Friends" (painted by Christian Schussele), Van Wyck Brooks, American author and critic, Stuart Davis (a self-portrait drawing), Edith Wharton, Eleanor Roosevelt, and Russell Sage, as well as photographs by Paul Strand of Georgia O'Keefe, Marsden Hartley, Gaston Lachaise, John Marin, and Alfred Stieglitz. Also recommended was a large collection of graphic works pertaining to Abraham Lincoln, woodblock prints by Antonio Frasconi of musicians Pablo Casals, Duke Ellington, Charles Mingus, and Woody Guthrie, and several other prints of importance to the collections. At its last meeting in FY 1982, the Gallery's Commission recommended the purchase with FY 1983 appropriated funds of significant works by Rembrandt Peale (of Horatio Greenough) and several other artists.

A number of important gifts were made to the National Portrait Gallery's permanent collection in FY 1983. Among them was an important life portrait of James B. Duke, founder of American Tobacco Company, Duke Power, and Duke University, by John DaCosta, which was the gift of Mr. T. Bragg McLeod of North Carolina. Katherine Caldwell gave a portrait of the artist Albert Pinkham Ryder by his only known pupil, Louise Fitzpatrick. Mrs. Herbert C. Hoover, widow of the late President, left to the Gallery L. C. Carmontelle's life portrait of Benjamin Franklin. Former Ambassador Clare Boothe Luce donated busts of herself and her late husband Henry Luce, publisher of TIME magazine. Barry Bingham, Sr., donated a drawing of Archibald MacLeish by Ellen Barry. The Violet Oakley Foundation donated 18 portrait drawings of well-known Americans.

The Gallery's exhibition program remains a central attraction for the general public, and, with its diverse approaches to history and art, has attracted much scholarly attention as well. At the beginning of FY 1983, the major exhibition "Charles Willson Peale and His World" opened at the Gallery. The exhibition, which was well attended and acclaimed by the public and critics, covered the entire range of Peale's work as artist, naturalist, and patriot and was accompanied by an impressive catalogue and introductory slide show. In the spring of 1983, the Gallery brought to Washington a traveling exhibition from the Museum of Modern Art: "Hollywood Portrait Photographers 1921-1941." This star-studded display of the virtuosity of the film studios' publicity portraitists created even more of a stir than anticipated; in one weekend alone more than 6,000 visitors to the Gallery set a new attendance record.

In June of 1983, a bicentennial retrospective of the work of Thomas Sully (1783-1872) opened. Thomas Sully enjoyed one of the longest active careers of any 19th-century American painter; he painted professionally from at least 1801 to early 1872. The Gallery's exhibition is the largest major showing of his work since 1922.

Smaller exhibitions in FY 1983 included, "Portraits from the New Deal"; "Blessed Are the Peacemakers" (portraits of the American, British, French, and Spanish "peacemakers" who were involved in the signing of the Treaty of Paris); "James Barton Longacre," chief engraver of the U.S. Mint in 1844; "The Eight," paintings and photographs of an independent group of eight early 20th-century American artists; along with exhibitions on Gertrude Vanderbilt Whitney (a shared venture with the Archives of American Art) and Washington Irving.

The Gallery continues to seek sponsorship and support for an exhibition of the great portraits from Versailles in FY 1984. Exhibitions being planned for FY 1985 and beyond include shows on the artists Miguel Covarrubias, Gaston Lachaise, James Earl, Chester Harding, William Edward West, John Frazee, and Henry Inman, as well as

exhibitions on American radio and television and Indian peace medals. Research is going forward on "The Black Presence in America," continuing the effort begun in 1973 with "The Black Presence in the Era of the American Revolution"; this now has been rescheduled for FY 1986. As usual, major publications will accompany these exhibitions.

The Gallery has several publications projects under way in addition to those related to its exhibition program. Work continues on the biennial update of the Illustrated Checklist of the Permanent Collection, most recently published in 1982, and on the multiyear project for a seven- or eight-volume letterpress edition of The Collected Papers of Charles Willson Peale and His Family, to be published by Yale University Press. (Volume I appeared in FY 1983.) Nonappropriated Trust funds are supporting the publication in 1984 at the University Press of Virginia of the proceedings of the American Print Conference held at the National Portrait Gallery on American Portrait Prints. Also in FY 1984 or 1985, the Gallery expects to produce a definitive catalogue of The Portrait Engravings of C. B. J. F. de Saint-Memin.

The National Portrait Gallery's public education program includes careful preparation of labels for each portrait, docent-led tours seven days a week, and an innovative series of programs designed for school groups, senior citizens, the disabled, and other specialized audiences. The Education Department also offers special performances and films throughout the year for general audiences, including the highly popular "Portraits in Motion" series of free, public dramatic programs on biographical themes.

The Gallery also is experimenting with audio-visual media in its educational programs and exhibitions. A multiprojector slide show was prepared as an orientation to the Peale exhibition, and a videocassette of contemporary newsreels is part of the FDR exhibition. Home Box Office produced a 90-minute program based on "Champions of American Sport," and made available to the Gallery extensive interviews with the athletes for the collections.

In FY 1984, the National Portrait Gallery will continue to add listings to The Catalogue of American Portraits, a large and growing source of information on portraiture for scholars of American history, art history, and biography. A national portrait survey has been supported in part by a grant from the Andrew W. Mellon Foundation, as well as the Ambrose Monell Foundation, Thomas Mellon Evans, the Lily Foundation, and numerous other private benefactors in the states where surveys have been in progress. Field researchers in FY 1983 examined collections in Ohio, Indiana, Michigan, Illinois, California, and Arizona, and the project yielded approximately 5,448 records to be integrated with the existing data base of over 34,366 records. Computer-generated indexes of collections already canvassed have been placed with over 232 individual institutions. If private funding continues, the states to be surveyed in FY 1984 are Washington, Oregon, Idaho, Nevada, New Mexico, Texas, Oklahoma, Missouri, and Arkansas. Including records not yet entered in the machine-readable files, more than 65,000 portraits so far have been located by The Catalogue of American Portraits. Work in the next five years will be focused on the completion of the survey and on entering all of the data into the computer. This is a priority fund-raising target for the immediate future.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of 2 positions and \$117,000 is requested to provide partial funding of the cost of a new vacuum hot table in the conservation laboratory shared with the National Museum of American Art, hire a conservator and a registration technician, and purchase conservation supplies (2 positions and \$87,000); and to increase the annual funding for the purchase of objects for the collection to \$377,000 (\$30,000).

Collections Management (2 positions and \$87,000) - New technologies have been introduced in the conservation of paintings, sculptures and works on paper. The conservation lab, shared with the National Museum of American Art, was equipped over 15 years ago. The most critical equipment needed is a new vacuum hot table (\$13,000 of the total cost of \$28,000 is requested by the Gallery, with the balance of the cost requested by the National Museum of American Art). As explained in the National Museum of American Art's justification, the present table has short-circuited and been rewired, but will not last much longer. The conservation lab cannot operate without this piece of equipment.

Because it is no longer possible for the one full-time painting conservator and the part-time paper conservator presently on board to keep pace with the growing collections and expanded exhibition schedule, conservation staffing is a critical area of concern. A great portion of the collection is in need of treatment and is in danger of further deterioration unless additional staffing is made available. The requested increase would allow an additional conservator to be hired (\$28,000) to help alleviate the dangers of continued deterioration and would provide for the purchase of additional necessary conservation supplies (\$28,000).

Existing staff in the Registrar's Office no longer can handle effectively the shipping, insurance, packing and crating, make pick-ups and deliveries, and solve storage and security problems. A museum registration technician is requested (\$18,000) in order to carry out the necessary registrarial functions for the expanded collections of the Museum.

Collections Acquisition (\$30,000) - The building of the collection is central to NPG's mission and remains a top priority concern. NPG is still a young museum and must continue to collect as aggressively as possible. With an FY 1984 acquisitions base of \$347,000, the requested increase of \$30,000 is sought to keep abreast of inflation in the art market.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from several sources including: the National Portrait Gallery's share of sales in the restaurant and museum shop; sales of photographic reproductions of portraits in the collection; staff honoraria; participation fees from museums to which NPG exhibitions are loaned; and ticket proceeds from programs such as the "Children of Pride" series, presented in November 1982. These funds are used to help defray the expenses of public lectures, symposia and special events (some of which are coordinated with the opening of exhibitions); associated costs of loan exhibition development and management; and for research expenses of staff who are preparing special publications or lectures. Funds provided by allotment will be used to provide partial support for The Catalogue of American Portraits' nationwide survey program (estimated expenditures of \$120,000 in FY 1983 and \$40,000 in FY 1984). In FY 1983, funds provided by the Collections Acquisition, Scholarly Studies and Education Program helped produce "The Children of Pride: A True Story of Georgia and the Civil War," a four-part series about the decades preceding the Civil War, the Civil War, and Reconstruction, and also supported a series of programs for senior citizens, a tri-museum (NPG, the Anacostia Neighborhood Museum, and the National Museum of American Art) family weekend program, and programs for junior high and high schools.

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 fifth year of a seven-year nationwide survey of American portraits. The generous 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.

Gifts provided by individual donors in FY 1983 were used to support the exhibition "Charles Willson Peale and His World" which opened in October 1982, and to purchase several works of art (estimated expenditures of \$57,000 in FY 1983). The Monica and Hermen Greenberg Foundation provided support for the living self-portrait, "An Evening with George Abbott." Funds for scientific analysis of the Robert Cornelius daguerreotypes were provided by the Barra Foundation. Funds provided by the Swann Foundation for Caricature and Cartoon will be used for an exhibition featuring caricatures of famous personalities, drawn in the 1930s and 1940s by Miguel Covarrubias, the Mexican-born caricaturist, who is renowned for his work in Vanity Fair magazine. Anticipated gifts and foundation grants of \$65,000 in FY 1984 and \$70,000 in FY 1985 will be used to support special activities, programs and portrait acquisitions.

HIRSHHORN MUSEUM AND SCULPTURE GARDEN

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 80 | 2,723 | - | 9 | - | 80 | - | 17 | - | - |
| FY 1984 Estimate | 80 | 3,035 | - | 12 | - | 64 | - | 622 | - | - |
| FY 1985 Estimate | 80 | 3,245 | - | 12 | - | 64 | - | 35 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Collections Management..... 50
 Exhibitions and Performances.....100
 Collections Acquisition..... 60

ABSTRACT - Established by act of Congress (P.L. 89-788. November 7, 1966), the Hirshhorn Museum and Sculpture Garden (HMSG) conducts an active program of public exhibitions, drawing from its own and other collections. The Museum prepares catalogues relating to its exhibitions and collections, and conducts extensive educational activities including film programs, lectures, concerts, publications and tours. For FY 1985, an increase of \$210,000 is requested for sculpture conservation (\$50,000); exhibitions from overseas (\$100,000); and collections acquisition funds (\$60,000).

PROGRAM - In October 1983, the Hirshhorn Museum and Sculpture Garden celebrates its ninth anniversary. As one of the major museums of modern art in the United States, the Museum operates an active program of exhibitions, research and acquisitions, along with related programs of lectures, films, concerts and educational activities involving audiences of all ages.

Major exhibitions shown in FY 1983 at the Hirshhorn were: "David Smith: Painter, Sculptor, Draftsman"; "From the Life of the Artist: A Documentary View of David Smith" (in collaboration with the Archives of American Art); "Directions, 1983" (a biennial presentation of recent art developments); "Friedel Dzubas"; and "Museum Purchases: 1974-1983." Smaller exhibitions include: "Art of Pakistan"; "The Eight and the Independent Tradition in American Art"; "Joseph Stella"; and continuing exhibitions of works on paper from the Museum's collection. Major exhibitions scheduled for FY 1984 are: "Dreams or Nightmares: Utopian Visions in Modern Art"; "Drawings 1974-1984"; "Artistic Collaborations in the Twentieth Century"; "German Expressionist Sculpture" (organized by the Los Angeles County Museum of Art); and "The Bequest of Joseph H. Hirshhorn: A Selection." Major exhibitions scheduled in FY 1985 include: "The New Content: Painting and Sculpture 1974-1984"; "Jim Dine: 1964-1984" (organized by the Walker Art Center); and two exhibitions as yet unplanned.

As the nature of the permanent collection of HMSG has become known more widely requests for loans from the collection have increased. In FY 1983 (through June 30, 1983), 265 objects were lent to 43 institutions. For example, the 43 paintings contained in "The Eight and the Independent Tradition in American Art" were lent to the Terra Museum of American Art, Evanston, Illinois. Loans to foreign exhibitors included six paintings to the Neue Gesellschaft fuer Bildende Kunst, Berlin, West Germany; five sculptures and two drawings by Alexander Calder to the city of Turin, Italy; and two paintings by Willem de Kooning to the Stedelijk Museum, Amsterdam, The Netherlands. In addition, two exhibitions originated by HMSG were toured by the Smithsonian Institution Traveling Exhibition Service.

To increase visitor appreciation and understanding of specific exhibitions and of modern art in general, the Museum provides visitors with a variety of instructional materials, including explanatory wall labels and brochures. The latter range from a single page to illustrated mini-catalogues and are distributed free of charge to the public. In a small theater in the third floor galleries of the Museum, a slide lecture program has been installed called "Elements of Art: Line." This program is run three times an hour for the benefit of visitors. The slide presentation is enhanced by the original works of art discussed in the slide program, which are installed in an adjacent gallery.

The Museum also conducts film series including a lunchtime series about artists and their work, an evening series of films by artist filmmakers, and Saturday films for young people. Other events held in the auditorium are concerts by the 20th Century Consort and a series of lectures including artists, historians and critics such as Ida Appleborg, Kendall Buster, Mary Jones, Pierre Picot, Anita Thatcher, Grace Glueck, Mary Boone, Carter Radcliffe, Friedel Dzubas and Charles Millard. Symposia also were organized around the "David Smith" exhibition and included Edward Fry, Clement Greenberg, Rosalind Kraus and Karen Witkin, and "The Eight and the Independent Tradition in American Art" exhibition with Marc Pachter and Bernard Perlman.

As a museum of modern art the Hirshhorn must continue to acquire significant new works. In the first nine months of FY 1983, the Museum acquired 25 works of art of which nine were purchased with appropriated funds. Major purchases in FY 1983 from appropriated funds were: "Le Coq (Rooster/Winter Landscape)" by Raymond Duchamp Villon; and "Bacchanale and Phantom Horse" by Jan Muller.

During FY 1984, the Hirshhorn Museum expects to receive the major bequest of Joseph H. Hirshhorn. A major loan program is contemplated, and the material for this major loan program will require extensive collections preparation, conservation analysis, mounting, photography and cataloguing.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of \$210,000 is requested for sculpture conservation (\$50,000); exhibitions from overseas (\$100,000); and collections acquisition funds (\$60,000).

Collections Management (\$50,000) - The Hirshhorn Museum and Sculpture Garden currently owns 2,031 pieces of sculpture. With the receipt of the bequest of Joseph H. Hirshhorn, the Museum will acquire an additional 882 pieces of sculpture.

The sculpture collection ranges from objects that are a few inches high to Isis by Mark diSuvero which is 43 feet tall, 65 feet long, 33 feet wide and weighs 35 tons. The materials range from the traditional (marble, bronze and wood) to the modern (plexi, welded steel, polished aluminum and glass). Some material is traditional, such as plaster, but used in a different way.

Although the Museum has a full-time sculpture conservator, he can not maintain this large collection without additional contractual assistance. Outside expertise needed to maintain the sculpture collection ranges from arc-welding and automotive painting to marine cable testing. An increase of \$50,000 would assure that such services can be secured to keep the collection from deteriorating.

Exhibitions and Performances (\$100,000) - The Hirshhorn has a substantial collection of 19th-century French sculpture, as well as works by 20th-century European giants such as Francis Bacon, Balthus, George Grosz, Joan Miro, Henry Moore and Pablo Picasso. Also included are important Latin American artists such as Botero, Soto and Cuevas. This international aspect of the Hirshhorn Museum and Sculpture Garden collection as well as its active exhibition program distinguishes it from other art museums in the Nation's Capital.

The Hirshhorn Museum and Sculpture Garden has maintained an active exhibition schedule for the past eight years. One hundred exhibitions have been presented in addition to rotating displays of the permanent collection of more than 7,000 works of art. Despite its mandate as a museum of modern art, an examination of past exhibitions reveals that of the 100 exhibitions displayed at the Museum, only one exhibition containing a significant number of foreign loans was organized by the Museum's staff. Were it not for the fact that the curator involved was on holiday in Europe and able to interview artists and select works of art, even this solitary attempt at originating an exhibition drawing primarily on European loans would have been impossible.

At the same time it is worth noting that 11 exhibitions consisting in whole or in large part of European loans were organized by other museums whose curators were able to do extensive research abroad. The inability of the Museum to send curators abroad has made it impossible to arrange important exhibitions of modern and contemporary European art that would perform a cultural service at home. It also lessens the effectiveness of the staff by keeping them ignorant of artistic developments abroad.

The \$100,000 increase would provide travel funds, printing and binding costs for a catalogue, packing, shipping and insurance. The loan exhibitions funded by this request would not be limited to European Art; they would include exhibitions of contemporary and modern art worldwide, selected by the Museum.

Collection Acquisitions (\$60,000) - The legislation establishing the Hirshhorn Museum and Sculpture Garden describes its function as a "museum in Washington, D.C. where modern art could be exhibited and studied...(which)...would enrich the culture of the Nation."

In order to carry out this mandate within the definition of the enabling legislation, it is essential that the Hirshhorn Museum remain a museum of modern art, keeping abreast of current developments in the visual arts.

The nature of modern art, in its international aspects, is one of constant variation and change. Like everything else in contemporary society, cultural changes take place more quickly and in greater scope than in the past. In addition, artistic output of quality has multiplied. To present a truly accurate and corresponding account of aesthetic developments on an international level, an active acquisition program is essential.

Although HMSG balances its acquisition program--buying masterpieces as well as those not yet in that class--the small size of its acquisition budget seriously has limited its ability to compete for significant artworks. As a consequence, the Museum already has lost the capability of acquiring works by some important artists whose prices have escalated beyond HMSG's means in the past two years alone. To remedy this situation, a base addition of \$60,000 for a total of \$200,000 is requested.

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. In FY 1983, allotments supported an outreach program to schools in the Washington, D.C. metropolitan area, exhibition preview receptions and travel expenses of the Museum's Board of Trustees. Also in FY 1983, the receipts from the fountain fund were used to purchase a painting, "Interface V" by Jacob Kainen. Special Purpose funds were used to purchase stationary, a small catalogue and expenses of the Board of Trustees.

Restricted Funds - Funds were used in FY 1983 to purchase the works of art: The Art Lovers, D.C. by Leslie Kuter, and Pyramid for Martin Hurson by Ann McCoy. Limited research travel for the curatorial staff in connection with exhibitions also was financed. The Museum is seeking outside support from various sources to help acquire costly and important major works for the permanent collection (estimated expenditures of \$596,000 in FY 1984).

CENTER FOR ASIAN ART

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-------|------------------------------------|------|-----------------|------|------------|-------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 30 | 923 | 1 | 54 | - | 3 | 23 | 1,458 | - | - |
| FY 1984 Estimate | 30 | 1,081 | 1 | 56 | - | 5 | 22 | 1,465 | - | - |
| FY 1985 Estimate | 30 | 1,081 | 1 | 60 | - | 3 | 22 | 1,515 | - | - |

*FTP = Full-time permanent positions

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. The Freer Gallery of Art has a continuing program to acquire works of Oriental art of the highest quality and to conserve, study and display these objects as keys to understanding the civilizations that produced them. The Arthur M. Sackler Gallery will be devoted to the acquisition, study, interpretation and exhibition of Asian art.

For FY 1985, all increases for the Center for Asian Art are related to the Quadrangle. Appropriate justifications are found accordingly in the Quadrangle section of this budget presentation.

FREER GALLERY OF ART

PROGRAM - The Freer Gallery of Art houses one of the most distinguished collections of Oriental art in the world. The collection consists of over 26,800 works of art from China, Japan, Korea, India, and the Near East and spans 5,000 years. Included in the collection are paintings; sculptures, and other objects in stone, wood, lacquer, jade, pottery, porcelain, bronze, gold and silver; and Biblical manuscripts. "The Peacock Room" by James McNeill Whistler is a highlight of an outstanding collection of American art that Charles Lang Freer, the Gallery's founder, considered a bridge between the East and West. Items not currently on exhibition are available for study to students and scholars. In addition to the collections, the Gallery houses a public library of approximately 30,000 volumes relating to the objects in the collections.

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

Freer Gallery research facilities, comprising 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 and at other similar institutions. Greater effort has been placed on expanding the research files on the individual pieces in the collection. Research files are made available to visiting scholars and students as well as the general public. In FY 1984, the organization and indexing of the Islamic Archives, a collection of photographs and slides in the Freer that dates from the last quarter of the 19th century to 1970, was completed.

The Technical Laboratory of the Freer Gallery of Art is renowned for its research activities, in addition to the ongoing conservation and restoration of objects in the collection. In FY 1983, works of art in glass, wood, lacquer, leather, metal, jade, precious gems, etc., were treated, as well as a large number of manuscripts, prints, drawings and watercolors. Research included lead-isotope ratios in Chinese bronzes, behavior of the copper-tin-lead alloy system, corrosion in archeological artifacts and induced corrosion on fakes and forgeries, publication of a paper on carbon-based pigments, use of atomic absorption and X-ray fluorescence analysis techniques for metal objects, infra-red scanning for object examination, and further work on ancient Chinese pigments, especially the purple component of a synthetic Han-dynasty blue. The pigment results from the survey of Ukiyo-e paintings are being reviewed and examination techniques are being developed for kirikane (cut gold leaf) in Japanese paintings to see if the gold manufacturing technique varies with date. These projects will continue in FY 1984, along with the examination, conservation, and writing of technical entries for the catalogue of the Islamic metalwork exhibition, further work on the history of bronze alloys, and the routine conservation work of the Laboratory. In addition, examination and treatment began on objects from the Arthur M. Sackler Collection, scheduled for exhibition in the new Quadrangle building in 1986.

In celebration of the 60th anniversary of the opening of the Freer Gallery of Art, "Studies in Connoisseurship, 1923-1983" will explore the evolution of research and connoisseurship during Freer's time to the present on Near and Far Eastern objects purchased by Charles Lang Freer. A reprint from Apollo magazine about the objects in this exhibition accompanied the show which will open to the public in September 1983. As part of the 60th anniversary of the Freer, the seventh Freer Medal was given to Professor Max Loehr for his outstanding contributions in the field of Chinese art.

Japanese exhibitions during FY 1983 included a show with screens that illustrate themes from parallel classic literary works, the "Tale of Genji" from Japan and "Yang Kuei-fei" from China. A general survey of ceramics, entitled "Japanese Ceramics from Past to Present" gave a brief overview of the history of Japanese ceramics from a Neolithic Jomon pot and Yayoi jar of the 1st century B.C. to 20th-century pieces; this exhibition also included several recent acquisitions which were on exhibit for the first time.

In an exhibition titled "Summer Whites," the sensitivity to seasonal moods and associations was reflected in the Japanese custom of reserving porcelain primarily for summer use. Following that custom, this exhibition presented the variety of porcelain wares produced at Japan's great porcelain center of Arita from the 17th through the 19th centuries. Another exhibition, "Japanese Portraiture," included 18 portraits and pseudo-portraits by Japanese painters who lived from the 13th to 19th centuries. Included were portraits of historical personalities of India, China and Japan from the 2nd through 19th centuries who made a profound impact on the cultural history of Japan.

The major exhibition in FY 1983 was "Chinese Art of the Warring States Period: Change and Continuity, 480-222 B.C." On view were 151 examples of jade ornaments, lacquerware, bronze vessels and fittings, and other metalwork inlaid with gold and silver designs. Many of the objects had been redated, reevaluated or could be understood more fully because of new knowledge resulting from recent archeological findings in the People's Republic of China. An illustrated catalogue revealing this research accompanied the exhibition.

In Chinese art, "Paintings of the Wu and Che Schools" depicted works representative of the mainstream of paintings in the Ming dynasty during the 16th century. Both the Wu and Che schools strongly influenced subsequent Chinese paintings. Another exhibition was "Chinese Flower Paintings" which included paintings of the 13th through 18th centuries. Flowers and bamboo appeared quite early as background motifs in Chinese figure paintings, then matured into major and independent subjects during the 10th century. Schools of flower painting developed and certain flowers and plants acquired symbolic meanings, in addition to representing the seasons in which they bloom.

In FY 1984, an exhibition is planned on "Japanese Drawings" which will include important objects by Hokusai and Kawanabe Gyosai as well as a large portion from the Grut Collection, acquired in 1975 and never before exhibited. Also in FY 1984, a major exhibition entitled "Islamic Metalwork" will open in April. This exhibition will be the result of a three-year collaborative research effort by the curator of Near Eastern art and the Technical Laboratory. In May 1984, an important exhibition on Whistler will open on the 150th anniversary of the painter's birth. Every Whistler painting, drawing, and watercolor in the Freer collection (approximately 350) will be reproduced in the exhibition catalogue which can be considered a definitive statement on the Freer Whistler collection, one of the two largest collections of his work in the world. The catalogue and exhibition will introduce a number of new topics for research and study on Whistler.

The Freer's fourth photographic exhibition "Charles Lang Freer: The Man and His Gallery" was developed using photographs and documents from the Freer archives. The exhibition presents a panoramic view of the life, travels, and collection of Charles Lang Freer, the founder of the Gallery.

As part of the Freer's education program during FY 1983, the Gallery offered six Oriental art lectures covering a wide range of topics relating to the holdings of the Museum. This popular lecture series will be continued in 1984 with the emphasis on connoisseurship in the past 60 years since the Freer Gallery opened to the public. Other parts of the education program include a free introductory brochure given to the public and mailed to individuals and groups who write for general information on the Freer, the continuance of the highly successful free exhibition leaflets introducing various aspects of the Gallery's collections, and the tours given by docents. In FY 1983, over 12,000 visitors joined the weekday and weekend tours given four times daily.

ARTHUR M. SACKLER GALLERY

PROGRAM - The primary goal of the Sackler Gallery, a component of the Quadrangle, is the advancement of the scholarly appreciation and public knowledge of the arts, especially Near and Far Eastern art. Towards this end, Dr. Arthur M. Sackler has given a collection of nearly 1,000 objects in the fields of Chinese, Indian, Southeast Asian and Near Eastern art. Among the artworks selected are 475 Chinese jades spanning a period from Neolithic times (5000 B.C.-1500 B.C.) into the 20th century; 153 Chinese bronzes from the Shang (ca. 1523 B.C.-ca. 1028 B.C.) through the Han (206 B.C.-220 A.D.) dynasties; Chinese lacquer, Near Eastern metalwork, and sculpture from ancient Cambodia, India and Thailand.

The Sackler Gallery may acquire art objects in those fields of central interest to the Museum: the arts of Asia in its broadest terms, from Korea to Egypt. Objects acquired for the collection in the future will be of high quality with respect to aesthetic standards, cultural history, and physical condition. Objects may be acquired by gift, bequest or purchase provided that they meet the acquisition criteria and the approval of the Director.

An extensive exhibition program is envisioned. This program will include Gallery-originated exhibitions 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. The inaugural exhibition in the new building will display the entire collection of the Sackler Gallery along with certain other major objects on loan from the collection of Dr. Sackler. Under consideration 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.

In addition to scholarly publications related to particular exhibitions, an extensive publications program is planned. Under consideration is a journal that would publish scholarly articles relating to objects in the Sackler collections as well as research that encompasses the cultures represented in the collections. The rich collections of the Gallery will attract a large number of research scholars, and an active program for awarding research fellowships is anticipated. Fellowship recipients would work closely with curators on topics related to the collections.

An expanded Oriental painting restoration program also is being planned. There is a critical shortage in this country of skilled persons trained in traditional methods of preserving Far Eastern paintings and screens. Only three facilities capable of restoring and mounting rare Far Eastern paintings and screens exist in this country, and the works in those institutions consume all of the time of those studios. Other institutions must risk sending their artworks to Japan or leave the screens and paintings in disrepair; yet, Japanese studios are occupied fully with their own collections.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are provided from allotments and are used to defray the costs of special events associated with the opening of new exhibits, to cover the travel costs of members who attend the Center's Visiting Committee meetings and to defray the costs of business-related dinners and meetings. These funds also support the Coordinator of Special Programs position in the Center. In FY 1983, approximately \$28,000 from the Institution's Collections Acquisition, Scholarly Studies and Education Program was used for a study by the Freer Gallery's Technical Laboratory of lead isotope ratios in Chinese bronzes.

Restricted Funds - The major portion of the nonappropriated Trust funds used by the Center stems from the Charles Lang Freer gift and bequest and is restricted by the conditions that are stipulated in that document. The funds are used to help finance expenses of the Freer's professional curatorial staff, administrative staff, acquisitions for the collections and library, the maintenance of the Freer's courtyard and the operation of the Freer museum shop (estimated expenditures of \$1,394,000 in FY 1983, \$1,417,000 in FY 1984 and \$1,494,000 in FY 1985). In FY 1984, additional support was received from the Clark Endowment for the purchase of Japanese art and from the Harold Stern Endowment to support scholarly research (estimated expenditures of \$30,000 in FY 1984 and \$18,000 in FY 1985).

ARCHIVES OF AMERICAN ART

(Dollars in thousands)

| Fiscal Year | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | | | |
|------------------|------------------------------------|--------|--------------|--------|-----------------|--------|------------|--------|----------------------------|--------|
| | FEDERAL FUNDS | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount |
| FY 1983 Estimate | 17 | 696 | - | 4 | - | - | 12 | 855 | - | - |
| FY 1984 Estimate | 17 | 711 | - | 4 | - | - | 16 | 973 | - | - |
| FY 1985 Estimate | 18 | 761 | - | 4 | - | - | 17 | 936 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Collections Management.....50

ABSTRACT - The Archives of American Art is the nation's largest repository of documentary and source materials relating to the history of the visual arts in the United States. Its primary mission is to stimulate research and publication in the field of American art history through the acquisition, preservation, and scholarly use of the papers of American artists, and records of art galleries, museums, and art societies. Microfilm copies of these collections are available to scholars and researchers through the Archives' national network of regional research centers (located in Boston, Detroit, New York, San Francisco, Los Angeles and Washington, D.C.) and through interlibrary loan to libraries across the United States. Complementing these written and manuscript collections, the Archives preserves the oral and audio-visual records of interviews with key individuals involved in American art through its Oral History Program. For FY 1985, an increase of 1 position and \$50,000 is requested to hire a curator of photographs and for supplies and contractual funds related to the conservation of photographs.

PROGRAM - The Archives of American Art, established in 1954 at the Detroit Institute of Arts, fulfills the need for a centralized repository of documentation on the visual arts in America; the Archives became a bureau of the Smithsonian Institution in 1970, reinforcing the Smithsonian's role as a primary center for the documentation and study of American art. The collections, in excess of eight million items, consist of artists' letters, sketchbooks, diaries, business papers and photographs; extensive holdings of museum and gallery records; 2,000 tape-recorded interviews with artists, dealers, critics, collectors, and museum directors; and a growing collection of audio-visual interviews.

This material, filled with historical data concerning the people and events significant to American culture, provides scholarly resources for research and study in American art history. The Archives' holdings are microfilmed to assure the preservation of the original documents and to provide microfilm copies of the collections for greater accessibility to researchers. These microfilmed sets of the Archives' holdings are available for research at the six regional centers located in Boston, Detroit, New York, San Francisco, Los Angeles, and Washington, D.C., and also may be borrowed by libraries throughout the United States through the interlibrary loan program.

In FY 1983 the Archives acquired through gifts or as loans for microfilming 307 collections of records from art-related individuals and institutions. Among the more notable groups were the personal and professional papers of the artists Jose de Rivera, Charles W. Hawthorne, Al Hirschfeld, Abraham Rattner, and Charles White; the art historians Edward Dwight, Gordon Hendricks, and Marchal Landgren; the critic Dore Ashton; and the early 20th-century theorist Jay Hambidge. The major acquisition of institutional records was the complete archives of the American Academy in Rome.

The Archives conducted 59 oral history and audio-visual interviews in FY 1983 in its continuing effort to document contemporary artists, craftsmen, dealers, critics, and art historians. Particularly rich interviews were recorded with Kenneth Callahan, Jacob Kainen, Antoinette Kraushaar, Peter Selz, and Esteban Vicente. The oral history project on Mark Rothko, begun in FY 1981, continued to gather reminiscences of that artist. A separate Northwest Oral History Project, established in Seattle to cover leading figures of the region, completed thirty-four interviews.

During FY 1983, over 3,000 research visits were made to the regional centers, where 7,500 rolls of film and 250 oral history interviews were consulted. The interlibrary loan office received 520 loan requests and sent out over 1,427 rolls of microfilm to requesting libraries throughout the country and abroad. Research conducted at the Archives resulted in a larger than usual number of books, exhibition catalogues, and articles published in FY 1983. Among the notable publications giving credit to the Archives were three exhibition catalogues on the sculptor David Smith, two on George Bellows, and others on Reginald Marsh, Joseph Stella, Joseph Cornell, and John Peto. More general subjects covered in catalogues were American artists in Brittany and Normandy and American urban realism of the 1930s. Specialized studies on such major figures as Thomas Eakins, Louis Lozowick, and Alfred Stieglitz also depended on Archives materials.

The Archives contributed letters, photographs, sketchbooks, and other items from its holdings to several museum exhibitions in FY 1983. The most notable was a large documentary exhibition on David Smith, organized by the Archives and mounted at the Hirshhorn Museum in connection with its show of Smith's paintings and sculpture. In another instance of interbureau cooperation, a show of material from the Archives' Gertrude Vanderbilt Whitney Papers was held at the National Portrait Gallery. The Whitney Museum of American Art in New York and the Museum of Fine Arts in Boston borrowed documents to supplement exhibitions on Thomas Eakins and Reginald Marsh.

EXPLANATION OF PROGRAM INCREASE:

Collections Management (1 position and \$50,000) - Although the Archives of American Art does not collect works of art, it has always collected photographs because of their importance as historical documents. Today, the Archives holds some 400,000 photographs and slides of artists, their families and friends, their studios and environments, and their works of art. In recent years, approximately 3,000 of these photographs have been identified as having great intrinsic value. In some cases, the photograph is now seen as a work of art; in other cases, the photograph is a particularly fine image either of or by a major figure. And in still other cases, it is simply because of the photograph's age or uniqueness.

In general, the Archives has kept its photographs among the papers to which they relate, but more recently, those recognized as having high value have been separated and kept individually. Any work done in conjunction with the photographs has been performed by general archival technicians, but it has become increasingly evident that photographs are different from papers, and those with monetary value, in particular, demand special handling.

The Archives, therefore, requests a program increase in FY 1985 of 1 position and \$50,000, \$23,000 of which would enable the hiring of a curator of photographs and \$27,000 of which would allow for the necessary supplies and equipment to catalogue and store the high-value photographs properly, and to begin contracting for needed conservation services. The benefits of these increases will be the safe-keeping and conservation of an immensely important collection. Photographs, precisely because they are visual, are not only desirable as historical documents, but are equally important as material for exhibitions and publications. The high-value photographs are particularly relevant to the latter endeavors. Further, the acquisition of expertise in this area may well result in uncovering additional treasures. Finally, the eventual development of a system for cataloguing all photographs in the collections will result in easier access to the Archives' resources of visual documentation for students and scholars everywhere.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided to defray costs associated with special events and to supplement a portion of the travel expenses incurred by the Archives' Board of Trustees.

Restricted Funds - These are generated through fund-raising activities, the solicitation of gifts, as well as foundation and corporate grants, and a membership program. A substantial portion of this income is used to support the Archives' general operating expenses, including 12 full-time employees, its Oral History Program, and the entire publications program.

Foundation and corporate grants have provided the principal sources of support for special projects. In FY 1983, the Weyerhaeuser Foundation grant of \$20,000 more than doubled the available funds for the Northwest Oral History Project, scheduled for completion in FY 1984; the Michigan Council for the Arts grant of \$13,000 and Michigan Foundation for the Arts grant of \$9,000 will be used to complete the film series "Artists in America" in FY 1984.

The Archives' Texas Collecting Project received approximately \$250,000 through fund-raising that supports acquisition efforts (estimated expenditures of \$100,000 in FY 1983 and in FY 1984). Also supported by fund-raising activities, contributions, foundations, and with the cooperation of the Henry E. Huntington Library and Art Gallery, the Archives of American Art is expanding its collections acquisition program to Southern California; more than \$20,000 was raised in FY 1983 toward hiring an area collector, secretary, and related operating costs for the Los Angeles Center in FY 1984 and FY 1985. A \$150,000 grant from The Henry Luce Foundation will support the Archives National Collecting Project in Rhode Island, Philadelphia, and other areas. For the Chicago Collecting Project, an anticipated \$35,000 from three foundations is expected in FY 1983. Supported by a \$60,000 grant from the Brown Foundation, Inc. the Archives of American Art appointed, for a one-year period, a Senior Visiting Scholar to do research and writing on the history of American Art. From the Robert Wood Johnson, Jr. Charitable Trust, a grant of \$50,000 will help to produce a film on the Archives of American Art.

COOPER-HEWITT MUSEUM

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|--------|------------------------------------|-----------------|------|--------|------------|--------|----------------------------|--------|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | FTP* | Amount | General | Special Purpose | FTP* | Amount | FTP* | Amount | FTP* | Amount |
| FY 1983 Estimate | 22 | 805 | 9 | 357 | 12 | 971 | 1 | 928 | - | 40 |
| FY 1984 Estimate | 22 | 843 | 9 | 391 | 12 | 963 | - | 492 | - | 75 |
| FY 1985 Estimate | 32 | 1,217 | 9 | 421 | 12 | 1,007 | - | 319 | - | 75 |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Collections Management269
Exhibitions and Performances.....105

ABSTRACT - The Cooper-Hewitt Museum, housed in New York City's National Landmark Andrew Carnegie Mansion, opened its doors to the public in October 1976 as a National Museum of Design. With world-renowned collections that include drawings, textiles, prints, wallpapers, furniture, jewelry, glass, ceramics, metalwork and other examples of decorative and the applied arts representing three millennia and dozens of cultures from every continent, the Museum is an important center for the interpretative display and the study of the arts of design.

For FY 1985, an increase of 10 positions and \$374,000 is requested to hire an archivist, archives technician, photographer, registration clerk and clerk-typist, and provide Federal status and funding for three existing curatorial and one existing registrarial position (9 positions and \$269,000); and to provide a more stable funding base for the exhibition program and provide Federal status and funding for the existing position of exhibit designer (1 position and \$105,000). (The above requested "existing" positions are presently funded from a Trust allotment.)

PROGRAM - The Cooper-Hewitt is a center for collections, exhibitions, and educational activities devoted to historical and contemporary design. The Museum was established as the Cooper Union Museum for the Arts of Decoration in 1897 and was conceived as a hands-on, working laboratory for the benefit of designers in all fields, whether practitioners or students. Through the generosity of several benefactors, extraordinary resources were assembled and freely made available for study. The Museum has been described as one of the most distinguished working collections in the world.

In 1967, the Museum's collections and library were transferred by the Cooper Union to the Smithsonian Institution and renamed the Cooper-Hewitt Museum, the Smithsonian Institution's museum of design. Today the collections are housed in the 1902 mansion originally built as the residence of the philanthropist Andrew Carnegie, as well as an adjacent town house (also owned at one time by the Carnegie family). The properties were given to the Institution as a permanent home for the Museum by the

Carnegie Corporation in 1972. The Museum's collection of drawings is the largest of any museum in this country, and its prints, textiles, and wallpaper holdings are of international importance. Groups of jewelry, silver, porcelains and other ceramics, glass, and furniture constitute the decorative arts collections; and its library, with 35,000 volumes and archive of related materials, is recognized as being among the most important of its kind in the country.

Care and preservation of its collections are the Museum's primary responsibilities and it continues to serve as a Conservation Advisory Center for the State of New York. Collections management also is of primary concern to the Museum. Phase one of the collections inventory, the physical count, was completed on schedule in FY 1983. In FY 1984, the Museum will continue the necessary second stage of the inventory, the reconciliation of old records with the records of the more than 165,000 items now identified in the collections. Concerted effort will continue throughout FY 1984 and FY 1985 to coordinate public and staff requirements for photographic services and simultaneously to improve the state of photographic documentation of the Museum's holding. A particularly promising prospect in this field is the exploration of the feasibility, begun in FY 1983, of a videodisc publication project which could produce a sophisticated, high-quality visual index to many of our most important collection objects. Several important groups of documents, drawings, specialized study materials, and other items relating to major designers or design topics (e.g., color) have come into the Museum's keeping and require archival organization and management to facilitate the public access and examination they deserve.

The Cooper-Hewitt is a leader among New York's museums in the field of educational activities. Attendance by the general public and the Museum's members at subscription series lectures, classes, workshops and tours in the first three-quarters of FY 1983 reached nearly 3,000 people. An additional 5,000 people were served in the same period by innovative programming for school children, senior citizens, and community groups as the Museum continued to participate in the city's Cultural Voucher Program.

FY 1984 will bring the graduation of the first class and the enrollment of the second class of students in the two-year Master's degree program in the history of the decorative arts. The program, unique in its scope, is administered jointly by the Museum and Parsons School of Design. All classes are being taught at the Museum and extensive use is made of the Museum's collections as teaching materials. Among those enrolled in FY 1984 will be a student recruited with the assistance of a two-year, \$25,000 Ford Foundation Scholarship awarded to the Museum to encourage a curatorial career by a member of a minority group. Dozens of interns also work and study at the Museum in various capacities.

The majority of the Cooper-Hewitt's public, however, is comprised of individuals who visit one or more of the Museum's imaginative and popular temporary exhibitions. With four separate areas of the Mansion designated for this purpose, the Cooper-Hewitt offers 12 to 16 exhibitions annually, the majority of which are accompanied by a catalogue. In FY 1983, visitors to the Museum enjoyed a landmark survey of Scandinavian modern design between 1880 and 1980. Organized by the Museum with the aid of a grant from the American Scandinavian Foundation, the exhibit traveled to Minneapolis, Washington, D.C., and Copenhagen. Subsequent exhibitions drew heavily from the Museum's own holdings in the areas of theatrical design and antique lace. "American Picture Palaces" recalled the era of monumental motion picture theater architecture; "Photography and Architecture" surveyed the early history of the photographic medium with an eye toward its utility and influence among architects, architectural historians, and critics. At the same time, Frank Lloyd Wright was presented in a major exhibition in the context of his closest associates and colleagues of his early career. A book to accompany the exhibition, entitled Frank Lloyd Wright and the Prairie School, with an essay by Professor H. Allen Brooks, is being published by

George Braziller, Inc., for the Museum. One of the the most successful exhibitions ever presented at the Cooper-Hewitt Museum was "Faberge: Jeweler to Royalty, from the Collections of Her Majesty Queen Elizabeth II and other British Lenders," on view from mid-April to early July 1983.

Major exhibitions in FY 1984 will include the first American examination of the "Amsterdam School: Dutch Expressionist Architecture, 1915-1930." This important survey of a topic little-known to most Americans will be accompanied by a publication of the same title to be co-published by the Museum and M.I.T. Press. American design ingenuity and artistry will feature prominently in two other major shows: the first devoted to the colorful world of "American Patent Models," and the other presenting the finest examples of embroidered "Samplers" from the Museum's own collection. A collection handbook devoted to samplers will be produced simultaneously with the exhibition. Major exhibition subjects in development for FY 1984, FY 1985, and beyond include designing for tea, the arts of the American Plains Indians, European illustration of the recent past, and "Jewelry, Ancient to Modern," among others. Still other prospects to which the Museum has devoted preliminary investigations range from a critical survey of American industrial design to exotic oriental influences on British and American decorative arts and architecture in the 19th century, to a technical and iconographical essay on color as a design tool, and in 1986, a major, new interpretation of the universal design process themes first hinted at in "MANtransFORMS," the exhibition with which the Museum opened its doors in October 1976.

Cooper-Hewitt collections and exhibition projects continue to be adapted for national circulation by the Smithsonian Institution Traveling Exhibition Service (the most recent examples being "Urban Open Spaces" and "Matchsafes," the latter drawn from the Museum's collection of approximately 4,500 examples). The Museum continues an extremely active lending program, making its collections available to museums and institutions in the United States and abroad.

Another of the Museum's central tasks is the building and refinement of its collections. The Museum acquired, in FY 1983, a very fine set of 37 Frank Lloyd Wright drawings, in part with funds made available by the Trust funded Collections Acquisition Program. Gifts from 52 donors in the first three-quarters of FY 1983 totaled 199 objects. The Museum also was able to purchase 16 objects in those same months utilizing Trust funds.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of 10 positions and \$374,000 is requested to hire an archivist, archives technician, photographer, registration clerk and clerk-typist, and provide Federal status and funding for three existing curatorial positions and the position of registrar (9 positions and \$269,000); and to provide a more stable funding base for the exhibition program and provide Federal status and funding for the existing position of exhibit designer (1 position and \$105,000).

Collections Management (9 positions and \$269,000) - Among the Museum's very special holdings are assorted archival collections which relate in varying ways to the needs, interests, and activities of all curatorial departments. The careful enlargement and continuous provisions of public access to significant design-related archives is at the heart of the Museum's mission as a national museum of design. Consequently, the Museum's FY 1985 request includes an increase of one position and funding for an archivist to establish uniform professional management standards, policies, and procedures for the half-dozen existing archival groups. The archives are interwoven closely with the Museum's other collection, research, and exhibition priorities, and the archival materials are often of such a nature and quality that they are considered more pro-

perly in the same category as the Museum's accessioned objects. As public awareness of the Museum's holdings of this type grows, an archival technician also will be a necessary addition to the staff in order to service the collections and assist those who are working with them.

Photographic documentation of the collections is insufficient and public requests and curatorial orders are being handled by a commercial photographer on an as-available, \$25-per-hour basis. An increase of one position and funding for a photographer is requested for this photographic documentation program.

As the process of collections inventory continues through the stages of matching and reconciliation in FY 1984 and future years, significant quantities of new data will be generated. A registration clerk is requested to assist in the reconciliation of inventory records and subsequent maintenance of the collections management system. Moreover, an additional clerk-typist is requested to help process the records and facilitate the Museum's effort to automate its collection records in concert with increased Smithsonian initiatives in this important area.

In addition, Federal status and funding are requested for the existing positions of curator of prints and drawings, curator of decorative arts, curator of textiles and the registrar. Explanation of this request is provided below in the section Replacement of Trust Funded Positions.

Exhibitions and Performances (1 position and \$105,000) - Because of its location outside of the Washington, D.C. area, the Cooper-Hewitt Museum cannot take advantage of the Institution-wide exhibit support services provided by the Office of Plant Services and the Office of Exhibits Central. Moreover, its small staff must be supplemented by temporary staff on an "as needed" basis in order to respond to the peak demand periods of exhibition construction and installation. With the escalating costs of purchasing exhibition supplies and contractual services, the Museum has suffered from the lack of a stable base of exhibition support funding. The requested increase would provide a more stable funding base for the active exhibition program and compensate for the Museum's inaccessibility to the Institution's centralized exhibit support services.

In addition, Federal status and funding are requested for the existing position of exhibits designer. Justification for this position is provided below in the section Replacement of Trust Funded Positions.

Replacement of Trust Funded Positions - When the Smithsonian accepted responsibility for the collections of the Cooper Union Museum, an experimental American Museum of Design based upon the distinguished models of London's Victoria and Albert Museum and Paris' Musee des Arts Decoratifs, the nation's cultural resources were enhanced considerably.

Given the Museum's origins and subsequent history as an achievement of private philanthropy in the spirit of public benefit, the Smithsonian wishes to preserve a strong mix of private support with enhanced Federal support. Moreover, the continuing involvement of private resources is a valuable means of involving New York City and the international design communities with the Museum's progress and evolution. It always will be important to permit and encourage the Museum to continue seeking private support in activities such as membership and subscription educational programs, publishing, and the museum shop.

While the Museum pursues such activities, however, the professional care and exhibition of its collections is a responsibility that must be faced and provided for more adequately. The Institution's Trust funded investment in the Cooper-Hewitt has yielded high dividends, but the Federal investment has not kept up with the public value of these collections and the basic responsibility to preserve and exhibit the objects in the collections. Therefore, it is essential, as an integral part of the FY 1985 budget request, that the five Trust fund positions in the collections management and exhibition functions be converted to Federal status.

With this increased Federal commitment to the basic responsibility to preserve and exhibit the Museum's collections, the Cooper-Hewitt's mission as a national museum of design will be strengthened. Further, the role of the Museum's private support in sponsoring the other program areas with innovative planning and wide-spread involvement of the design communities will be reinforced.

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 officer, curators, and various other staff members and help to defray expenses associated with special events such as exhibition openings. Specific funds are used to support various educational programs, museum shop expenses, exhibitions and publications for the Museum (estimated expenditures of \$963,000 in FY 1984 and \$1,007,000 in FY 1985).

Restricted Funds - These funds are provided from grants, bequests, and other donations from individuals, foundations, organizations, or corporations for specific purposes. Major gifts in these categories during FY 1983 included: a bequest of \$41,000 from Ida C. McNeill in memory of her parents, to support the Museum's modest funds for collection acquisitions; a gift in honor of Enid W. Morse by her husband to underwrite a lecture and publication series (\$25,000); a two-year scholarship for a minority student in the Museum's Master's degree program from the Ford Foundation (\$25,000); generous sponsorship for the "American Patent Models" exhibition from the New York City law firm of Simpson, Thacher, and Bartlett in honor of their centennial (\$100,000); and a gift from the Schroder family to defray the loan fee for the exhibition "Virtuoso Goldsmiths" (\$16,000). In FY 1983, the Smithsonian's Office of Membership and Development hired a full-time development officer to assist in the Museum's heavy task of raising funds for its continuing programs as well as the major capital improvement campaign which is being prepared for the renovation and expansion of the Museum's physical plant.

In FY 1983, Cooper-Hewitt estimates expenditures totaling \$409,000 for two major exhibitions, "Scandinavia Today" and "Faberge," and estimated expenditures of \$108,000 in FY 1983 and \$90,000 in FY 1984 are projected for the "Patent Model" and "Amsterdam School" exhibits. In conjunction with the Book of the Month Club, Inc., Cooper-Hewitt is estimating publication costs of \$35,000 in FY 1983 and \$41,000 in FY 1984 to produce a series of books on decorative arts. The Museum is estimating expenditures of \$158,000 in FY 1983, \$229,000 in FY 1984, and \$230,000 in FY 1985 for various other exhibitions.

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 15 separate projects were submitted for possible funding in FY 1984 (estimated expenditures of \$75,000 in FY 1984 and in FY 1985).

NATIONAL MUSEUM OF AFRICAN ART

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 25 | 868 | - | 36 | - | 13 | 3 | 112 | - | - |
| FY 1984 Estimate | 25 | 975 | - | 9 | - | 10 | 3 | 105 | - | - |
| FY 1985 Estimate | 25 | 1,143 | - | 9 | - | 10 | 1 | 57 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Base Deficiency.....123
Collections Acquisition..... 45

ABSTRACT - Following the signing of Public Law 95-414 by the President authorizing the Museum of African Art to become part of the Smithsonian Institution, and the subsequent supplemental appropriation passed in FY 1979, the Museum of African Art, established as a private museum in 1964, officially joined the Smithsonian in August 1979. In 1986, the Museum will relocate to the Mall as a part of the Smithsonian's Center for African, Near Eastern and Asian Cultures. The National Museum of African Art (NMAFA) is the only museum in the United States devoted solely to the exhibition and study of the visual arts of sub-Saharan Africa. For FY 1985, an increase of \$168,000 is requested for base deficiencies in personnel costs (\$123,000) and for collections acquisition (\$45,000). Increases also are requested relative to the Quadrangle and those justifications are therefore included in the Quadrangle section of this budget presentation.

PROGRAM - At its present location on Capitol Hill, the Museum occupies a row of nine townhouses, one of which was the residence of the 19th-century black abolitionist, orator, and public official Frederick Douglass. In 1986, the Museum will move to a new permanent building on the Mall as a part of the Smithsonian's Center for African, Near Eastern and Asian Cultures. Once relocated, the Museum will have a unique role in the United States museum community. It will have the space for its collections and professional staff and will be able to respond to this nation's growing interest in African art and culture. The mandate of the National Museum of African Art is clearly defined: "to foster and sustain through exhibitions, collections, research and programs an interest in and an understanding of the diverse cultures in sub-Saharan Africa." In order to carry out its mandate effectively, the Museum will place greater administrative emphasis during FY 1984 on establishing distinct yet efficient and cooperative organizational units: educational, curatorial and administrative. This analysis and clarification of functions and needs is essential in order to respond effectively to increased public and scholarly interest, as well as to prepare for the relocation of the Museum.

Exhibitions - In FY 1982, the Museum adopted the concept of thematic exhibitions to promote greater understanding about African art and culture. This approach was continued in FY 1983. The result was the development of a series of thematic presentations that demonstrated both the aesthetic excellence of the objects and the socio-cultural complexity of the societies from which they came. Three exhibitions were organized during FY 1983: "African Emblems of Status," composed of objects that reflect the emphasis placed by some African societies on aesthetically beautiful forms and designs created to enhance an individual's status, wealth, authority and privilege; "From the Earth: African Ceramic Art," examined the art of the African potter created for utilitarian and ritual purposes, and "African Art in Color," an experimental exhibition, which explored the widespread use of color by traditional African artists to enhance a symbolic or magical purpose in their work. These thematic presentations achieved their goal. They conveyed to the viewing public a sense of the character and meaning of the objects by revealing as much as possible about their creators, their context and their meanings--aesthetically, culturally, technologically, and historically.

It was recognized, however, that exhibition approaches must be varied if they are to be forceful and clear visual statements. Hence the thematic concept was expanded to include exhibitions that could focus on a single ethnic group, an historical topic, or a particular cultural area. The FY 1984 schedule will begin with a major loan exhibition, "African Islam," which historically and visually demonstrates the highly flexible and syncretic phenomenon of Islam in sub-Saharan Africa. The meeting of Islam and sub-Saharan traditional cultures often resulted in new and vigorous visual traditions. The exhibition catalogue, published by Ethnographica Ltd., London, in cooperation with the Smithsonian Institution Press, serves as a major contribution to the discipline of art history. This will be followed by the Smithsonian Institution Traveling Exhibition Service's "Ethiopia: The Christian Art of an African Nation." Finally, an exhibition originated by a member of the Museum's curatorial staff will explore the imagery of African gameboards as aesthetic forms, as well as their history, context, and meaning. Each of these installations include explanatory texts and visual support materials to clarify further the major ideas underlying the works of art.

For FY 1985, two major exhibitions have been scheduled. The first, "Igbo Arts: Community and Cosmos," is the first comprehensive show in the United States of approximately 250 objects devoted to the art and culture of this major ethnic group living in present-day Nigeria. It is being organized by the UCLA Museum of Cultural History and will be accompanied by a definitive catalogue. The second, titled "Praise Poems," is devoted to 100 masterpieces of African art from the Katherine White Collection, now a part of the Seattle Art Museum. The White Collection of African Art is one of the most celebrated in the United States. The catalogue will include not only essays written by specialists in the field, but also will have poems written by the collector "in praise of" selected works of art.

Collections - The Museum of African Art's permanent collection is broad in its sub-Saharan representation; however, its strength lies primarily in its holdings from the regions of the western part of the Sudan and the Guinea Coast. The development of the collection continued through an active acquisition program that followed two paths: gifts and purchases. Among the significant gifts donated to the permanent collection in FY 1983, were a number of important objects (ceramics, textiles and wood sculpture) that came as a result of general public and private collector interest in the exhibitions that the Museum had organized.

In FY 1983, intensive cultivation nationwide of a greater number of private collectors was begun. This thrust must be increased and new museum/collector relationships rigorously sustained in view of the impending move to the Mall. This on-going collection developmental work was enhanced greatly by a major purchase of a Yombe sculpture through the Smithsonian's Trust-funded acquisitions program. It is an important example of Central African wood sculpture and the first of such extraordinary quality from this region of Africa to enter the Museum's permanent holdings. This carving of a female figure and child, attributed to the Yombe people of Zaire, dates to the late 19th century, and was known to have been collected before 1914. It is one of six such extant carvings and is called "The Master of the de Briey Maternity." It is the only one of the series in the United States. The other five are in collections in Belgium and Canada. Its rarity, exceptional aesthetic quality, and provenance have brought the Museum's Central African holdings into the forefront of United States museums.

Additional significant acquisitions were made possible through the Museum's FY 1983 Federal appropriation for works of art. In each instance, the works of art acquired greatly strengthened existing holdings, or filled major collection gaps. The objects included an early documented 19th-century Ashanti textile from Ghana comparable to early examples in the British Museum and the Rijksmuseum voor Volkerkunde, Leiden; a rare divination instrument from the Holo people of Zaire, and an unusual figurative ceramic vessel from the Lwena people of Zaire, signed and dated by the artist. In FY 1984 it is hoped that major additions will be made from the following cultural regions: Gabon, Zaire, Angola and Southern Africa.

Education and Public Orientation - It is imperative that all art museums, and certainly the National Museum of African Art, conceive and implement creative educational programs and outreach activities--particularly for children and young adults. This is the only way that generations to come can understand and appreciate the creative achievements of their own past and those of the wider world of which they are a part. Such activities must reach a broad spectrum of the American public. The Museum, in spite of minimal staff, space, and funds, has been able to conduct an innovative lecture and workshop program. Its content has been a direct outgrowth of the exhibition and collections acquisition programs. Workshops, docent-led tours, undergraduate college level courses taught by Museum staff, and intern training are not conducted in isolation; they have been linked firmly to curatorial research and collection development. A teaching/training staff of four with docent assistance served more than 300 groups (approximately 10,000 students) from the Washington, D.C., Maryland, and Virginia elementary and secondary school systems in FY 1983. The Museum also sought general methods to assist visitors in their orientation to African art and the Museum's purpose. For example, in FY 1983 the Museum produced an attractive, informative brochure describing its collections and the scope of its activities.

Research - The entire Museum staff consults with curators, art historians, and anthropologists throughout the world about ongoing research on the origin, function, authenticity, provenance and aesthetic quality of objects in the collection, as well as recent developments in scholarly field research. In FY 1983, two Smithsonian Research Fellows, one African and one American, selected the National Museum of African Art for the opportunity to conduct and share their own intensive research on specialized African art topics.

Exhibitions are conceived and their catalogues written by staff as well as guest curators. In addition, the Eliot Elisofon Photographic Archive, named for the famed LIFE photographer, now consists of 24,181 color slides, 32,126 black and white photographs, and 100,000 feet of unedited film footage on African art and culture. The foundation of the archive was the bequest by Elisofon of his own visual documentation. However, gifts from scholars, collectors, and interested members of the public substantially increased the volume of visual documentation now available. This continues to be a growing resource available to academic institutions, museums, scholars and the public from all parts of the world.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of \$168,000 is requested for base deficiencies in personnel costs (\$123,000) and for collections acquisition (\$45,000). Increases also are requested relative to the Quadrangle and those justifications are therefore included in the Quadrangle section of this budget justification.

Base Deficiency (\$123,000) - The last 12 months have seen a number of extremely important high-level personnel changes at the Museum. These were precipitated initially by the decision of the Museum's founding director to step aside from administrative duties but stay on at the Museum to devote his full time to research. Further affecting the situation was the selection of the Museum's Acting Director to become the Assistant Secretary for History and Art. The resulting search for a new full-time permanent director of the Museum produced two pre-eminently qualified candidates of international stature.

In the full knowledge that the Museum would have to grow, and that its small staff could well use the combined intellectual and administrative talents of both candidates, especially as it plans for the forthcoming occupancy of the Quadrangle, the Institution was extremely fortunate in convincing both to join the Museum: one as Director, and the other as Associate Director for Collections and Research. As necessary support, a secretary was hired as well.

Inasmuch as these three personnel actions were taken in advance of the normal budgetary process, the Institution now is seeking, for FY 1985, the \$123,000 necessary to permit the accommodation of these key people within the Museum's own financial base. Although the Smithsonian normally makes every effort to avoid getting out in front of the formal approval process, it is hoped that the Office of Management and Budget and the Congress will agree after the fact that the decisions in this instance were both prudent and supportable.

Collections Acquisition (\$45,000) - Funds are requested to increase the Museum's base support for acquisitions to \$75,000. Although funds for major acquisitions are provided via the Trust funded Collections Acquisition Program, the present level of appropriated funds (\$30,000) is inadequate; the Museum must have the resources to augment selectively the collections through the purchase of less costly items. Specific opportunities arise constantly that would make the Museum's collections more meaningful and more representative of African culture.

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 metropolitan area public education institutions, and allotments. They are used to support the cost of certain museum publications, opening of new exhibitions, and to defray travel costs associated with meetings of the Board of Trustees.

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 exhibit. For example, in FY 1983, a grant received from the Shell Companies Foundation provided partial program and salary support for the Museum's educational activities (\$10,000). Funds from various individuals, organizations and corporations provided support for the Education Department which, among its programs, conducts credit courses each semester in cooperation with local universities (estimated expenditures of \$71,000 in FY 1984 and \$22,000 in FY 1985). Gifts and grants also are anticipated to support a special publications program (estimated expenditures of \$33,000 in FY 1984 and \$35,000 in FY 1985). The Museum is seeking outside support actively from various sources to acquire or supplement the acquisition of important major works for the collection as well as to support its education, research and exhibition programs.

ANACOSTIA NEIGHBORHOOD MUSEUM

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 19 | 790 | 1 | 31 | - | 4 | - | 3 | - | - |
| FY 1984 Estimate | 19 | 820 | 1 | 32 | - | - | - | 1 | - | - |
| FY 1985 Estimate | 19 | 860 | 1 | 33 | - | 1 | - | 1 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Exhibitions and Performances.....40

ABSTRACT - The Anacostia Neighborhood Museum was founded in the Anacostia section of Washington, D.C., in 1967 by the Smithsonian Institution to provide the opportunity and the resources for a continuing museum experience for community groups and individuals; to serve as a cultural resource for the people of Anacostia and to attract them to the Museum and other facilities of the Smithsonian; and to contribute to exhibitions throughout the Institution relating to black peoples' contributions to science, history, and art in America. The Museum also serves as a source of materials on black American history for similar institutions around the Nation and demonstrates to other museums and neighborhoods, with similar geographic and social patterns, new ways to lead previously uninvolved groups into the worlds of science, history and the arts. In order to foster closer collaboration with other Smithsonian history and art museums, the Anacostia Neighborhood Museum was transferred organizationally in FY 1983 from the Public Service to the History and Art Activity. For FY 1985, an increase of \$40,000 is requested for equipping and furnishing the Museum's Fort Stanton facility.

PROGRAM - Programmatic goals and objectives of the Anacostia Neighborhood Museum are simple and straightforward: to plan, develop and manage research projects that will support in-house and traveling exhibitions; to plan, develop, write, design and produce exhibitions for general museum audiences; to prepare catalogue/source books to accompany museum exhibitions; to identify, locate, and interpret historical documents, artifacts and memorabilia that are germane to Afro-American studies and ethno-history for use in museum exhibitions both currently planned and appropriate for the future.

By far the greatest impact on the Museum's plans over the next few years will be the relocation of its public exhibition and education space from the Carver Theater building to the new addition to the already existing Exhibits Research, Design and Production Laboratory at Fort Stanton Park. The Museum will re-open with "The Renaissance: When the Negro Was in Vogue" exhibition. This exhibition will be shown for two years and will be followed by an exhibition on "19th Century Anacostia." At the same time, the education department will continue to support the mission of the Museum through the development and implementation of a full range of educational programs.

In keeping with its goal to serve as a cultural resource for the people of Anacostia, the Museum opened, in FY 1983, a show entitled "Here, Look at Mine," an exhibition of the work of John N. Robinson, a 72-year-old self-taught black artist and life-long resident of Anacostia, who at the age of 64 was given a highly successful retrospective exhibition at the Corcoran Gallery of Art.

EXPLANATION OF PROGRAM INCREASE:

Exhibitions and Performances (\$40,000) - During FY 1985, the renovation of the Fort Stanton facility should be completed. An amount of \$40,000 will be needed for items not included in renovation. These items include furnishings, equipment, and interior appointments such as drapes, carpeting and lighting. All of these are mandatory for the opening and continued functioning of the facility. The funds will be utilized in support of exhibition programs in subsequent years.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - Funds are provided by an annual allotment to cover the salary and benefit costs of an exhibits specialist. During FY 1984 and FY 1985, this specialist will work on the Dwight, Harlem Renaissance, and Black Women exhibitions. Additional funds are provided from exhibit rentals, catalogue sales and donations, and are used to purchase supplies and materials to support the Museum's programs and community activities.

Restricted Funds - These are in the form of gifts from individuals, organizations and corporations and are designated for the general support of the Museum's programs.

OFFICE OF THE DIRECTOR FOR PUBLIC SERVICE

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-----|------------------------------------|--------|------|--------|------------|--------|----------------------------|--------|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount |
| FY 1983 Estimate | 12 | 650 | 18 | 838 | - | 127 | - | 155 | - | - |
| FY 1984 Estimate | 12 | 586 | 22 | 858 | 2 | 241 | - | 7 | - | - |
| FY 1985 Estimate | 13 | 646 | 22 | 1,007 | 2 | 240 | - | 10 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Education and Public Orientation.....60

ABSTRACT - The Office of the Director for Public Service guides and supports the development of programs to advance the Institution's objectives in education, publication, information and folklife programs and keeps the Secretary informed and advised concerning Public Service programs and activities. Public Service organizations include the Smithsonian Institution Press, Smithsonian magazine, Office of Smithsonian Symposia and Seminars, the Office of Elementary and Secondary Education, and the Office of Folklife Programs, the latter three of which are included under the Special Programs segment of the budget presentation. The Office of Telecommunications and the Visitor Information and Associates' Reception Center also are included in this line item. For FY 1985, an increase of 1 position and \$60,000 is requested for the Visitor Information and Associates' Reception Center to support the implementation of an automated data bank of intern records (1 position and \$20,000); to establish a nationwide pre-visit education program (\$15,000); and to develop and establish a graphic information system (\$25,000).

PROGRAM - I. Immediate Office, Director of Public Service: The primary functions of the Office of the Director are to stimulate, coordinate and supervise the activities of the Smithsonian's educational and public service programs, including the Office of Telecommunications, the Visitor Information and Associates' Reception Center, the Smithsonian Institution Press, the Smithsonian magazine, the Office of Elementary and Secondary Education, the Office of Smithsonian Symposia and Seminars, and the Office of Folklife Programs.

II. Office of Telecommunications: The Office of Telecommunications assists in developing plans for Smithsonian policy and objectives in telecommunications, which serves as one of the Institution's major modes of public education and enlightenment. The Office also develops and produces films, television and radio programs for distribution to public and commercial broadcasting outlets, as well as to educational and civic organizations.

During FY 1983, a special one-time Federal appropriation supported production of a film on the Treaty of Paris of 1783. The film will depict the course of negotiations that led to the formal end of the Revolutionary War and the launching of the United States as an independent nation. All production activities were contracted in FY 1983, with completion expected in the spring of 1984.

III. Visitor Information and Associates' Reception Center (VIARC): The Visitor Information and Associates' Reception Center (VIARC) serves as the focal point for public information about the entire spectrum of the Smithsonian's exhibitions, events, programs and activities. Established in 1970 primarily to provide information and reception services for Smithsonian National Associates, VIARC's charter has expanded to include responsibility for administering a range of centralized information and assistance programs serving the public, Associate members of the Institution, Smithsonian staff, volunteers and interns. Many of the Center's programs operate seven days a week and involve the coordination and direction of large numbers of volunteers who constitute a primary source of support for the Institution's public information programs and for staff project assistance behind the scenes. These programs are administered through the Center's four sections: the Seven-Day Information Unit, the Information Outreach Unit, the Public Inquiry Mail Unit and the Staff/Volunteer Service Unit. A separate Information Resources Division compiles, coordinates and produces the variety of reference materials, information aids and publications which support the Center's activities.

Seven-day services include the Museum Information Desk Program through which a corps of 400 Volunteer Information Specialists staff 14 desks in eight Smithsonian museums from 10 a.m. to 4 p.m. daily; and the Telephone Information Program which, operating from 9 a.m. to 5 p.m. daily, is the primary point of public telephone contact for information about the Institution, its exhibitions, programs and activities. This program responds to well over 300,000 annual inquiries and produces 24-hour recorded information for a Dial-A-Museum and Dial-A-Phenomenon.

The Information Outreach Unit includes the Center's newest activity, the Information Outreach Program, which works through the local, national and international tour and travel industry and the Institution's own network of outreach activities, to promote pre-visit education and National Associate membership. Group Information Services are provided through volunteer lecturers who, participating in the Center's Group Orientation Program, present a variety of 30-minute slide/lecture overviews of the Institution. Included are daily public programs, regularly scheduled programs for new Smithsonian employees and interns, and special prescheduled programs for tour and school groups; behind-the-scenes tours of the Smithsonian Institution Building--which outline its history, use and furnishings--are provided by the Center's Castle Docents on a regular weekend schedule; through the Mobile Information Program, brightly colored information carts are operated during summer months of peak visitation along the Mall's pedestrian walkways to supplement information services available in the museums.

The Public Inquiry Mail Unit serves as the research, response and referral point for the Institution's unsolicited public mail. Working independently and in cooperation with other Smithsonian bureaus, this unit produces a variety of substantive preprinted materials to respond to questions on popular topics; compiles and distributes a bimonthly sales reference list to aid the Institution's auxiliary activities in identifying the origin of sales products; and produces and promotes pre-visit orientation packages for the public and Associate members of the Institution. Some 40,000 pieces of mail are handled annually.

The Staff/Volunteer Service Unit operates the Independent Volunteer Placement Service (IVPS) which is the registration and placement program for the Institution's volunteers working behind the scenes, a work force currently some 800 strong. The IVPS responds to staff requests for short- and long-term project assistance by referring volunteers with the appropriate skills and experience. This program also organizes and coordinates special volunteer task forces to meet a variety of bureau and program office needs and conducts an annual Institution-wide volunteer survey which provides necessary statistical data and forms the basis for the Institution's annual acknowledgement of volunteer support.

This Unit also is responsible for the Intern Registration and Information Service which provides a registration, orientation and information program for the hundreds of students receiving academic credit as Smithsonian interns each year, and the Special Magazine Files through which reduced rate National Associate memberships and gifts are made available to Smithsonian staff and volunteers. Some 6,800 memberships currently are fulfilled through this program.

EXPLANATION OF PROGRAM INCREASE:

Education and Public Orientation (1 position and \$60,000) - For FY 1985, an increase of 1 position and \$60,000 is requested for the Visitor Information and Associates' Reception Center to support the implementation of an automated data bank of intern records (1 position and \$20,000); establish a nationwide pre-visit education program (\$15,000); and develop and establish a graphic information system (\$25,000).

The Intern Services Program, a function of VIARC's Staff/Volunteer Services Unit, formulates and maintains a central registration system for interns throughout the Institution (initiated in FY 1983), and provides a wide range of administrative support services for the public, interns, the administration and the Smithsonian Internship Council. The requested increase of 1 position and \$20,000 would enable VIARC to hire a program assistant for Intern Services, who would have the responsibility to develop and implement a responsive automated data bank of intern records in order to identify interns in residence and facilitate automatic retrieval of statistical data for reporting to intern coordinators and the administration. Furthermore, the program assistant would develop and maintain updated information on internships for public distribution, produce a handbook and other printed guidelines for interns, administer the issuance and retrieval of intern's Smithsonian security credentials, coordinate intern orientation procedures and serve as corresponding secretary and archival officer for the 35-member Smithsonian Internship Council.

In order to increase the Institution's capability to inform, orient and serve the millions of visitors to the Smithsonian each year, the Visitor Information and Associates' Reception Center currently is planning to develop and implement a multifaceted program to upgrade the different visitor services provided by the Institution. One facet of this plan would be to establish a nationwide pre-visit education program that would coordinate VIARC's efforts, for the first time, with the Washington, D.C. and national travel and tourism industry. Also, it would make maximum use of existing Smithsonian outreach programs, such as the Office of Public Affairs, Office of Telecommunications, Smithsonian Institution Traveling Exhibition Service, Smithsonian magazine, and the National Associate Program. This comprehensive education program would improve the provision of information and assistance to visitors prior to their arrival in Washington, D.C., ensure that they reap the maximum benefit from their Smithsonian experience while in Washington, and extend the full educational resources

available to the visitor after returning home. The requested increase of \$15,000 would provide the necessary general program support to establish this pre-visit education program, including printing and reproduction, supplies and equipment, and necessary travel.

Moreover, \$25,000 is requested to develop and implement an effective graphic information system outside Smithsonian buildings and along adjoining pedestrian walkways to provide visitors from outside the Washington, D.C. area with a highly-visible and clearly-understood orientation to the location of the different Smithsonian museums and the Mall. This information system must incorporate and coordinate museum building identification (both on and off the Mall), street signage, static orientation devices located along pedestrian walkways, the centralized and wide-spread distribution of informational materials, and the development of audio-visual aids. Furthermore, the graphic orientation system would be extended to provide for informational directional signage on the Metro rail/bus routes and on the major highway and surface street networks in order to improve access to the Mall and provide more efficient travel planning for visitors.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - I. Office of Telecommunications: These funds are provided by allotments and receipts from radio and television subscribers which support eight staff members in FY 1983 and FY 1984. They also support expenses associated with the production of educational and informational materials for television, film and radio. In FY 1983, the Office produced the award-winning film, "American Picture Palaces," on the great movie theaters of the 1920s and 1930s. Three ongoing series of programs reach the American public regularly through radio and television. "Here at the Smithsonian," an award-winning new series of video features, and "Radio Smithsonian," a staple for public and commercial radio stations across the country, are financed partly by an allotment and partly by subscriber fees. "Smithsonian Galaxy," the popular radio feature series now reaching 225 stations, beginning in FY 1984 will be underwritten by revenues from the "Smithsonian World" series.

II. Visitor Information and Associates' Reception Center: These funds are provided by allotments and are used primarily to support 16 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 Program Statement.

Restricted Funds - Office of Telecommunications: A foundation grant enabled the Office to supervise production of the film, "Yorktown," commemorating the crucial American-French victory of 1781 (estimated expenditures of \$155,000 in FY 1983, \$7,000 in FY 1984 and \$10,000 in FY 1985).

SMITHSONIAN INSTITUTION PRESS

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-------|------------------------------------|--------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 30 | 992 | 32 | 9,167 | - | - | - | 4 | - | - |
| FY 1984 Estimate | 30 | 1,032 | 32 | 11,207 | - | - | - | - | - | - |
| FY 1985 Estimate | 30 | 1,032 | 33 | 10,900 | - | - | - | - | - | - |

*FTP = Full-time permanent positions

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, exhibit catalogues for Smithsonian museums, educational pamphlets, and informational leaflets. It functions as a university press, producing scholarly and specialist trade books on the Institution's behalf. It also publishes popular illustrated books for sale primarily by direct mail to Smithsonian Associates, under the imprint Smithsonian Books. During FY 1983, the Press also assumed the responsibility for the development, production, business and marketing functions of the Institution's recording program. Additionally, the Press acts as the official agent of the Smithsonian in the procurement from the United States Government Printing Office of printing services, needed government forms, guides and instructions as well as providing professional assistance to Smithsonian authors upon request. No program increase is requested for FY 1985.

PROGRAM - The consolidation of the Smithsonian Institution Press and Exposition Books and the inclusion of the recording program has been facilitated by the centralization of such common functions as business management, production and marketing. One major benefit of this consolidation resulted in early FY 1983 when the Press was able to absorb the responsibility for the recording program into the existing structure without loss of time or effectiveness.

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

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

Federally-funded books published during FY 1983 include:

Patricia G. Palmer and Alice E. Tucker. "A Scanning Electron Microscope Survey of the Epidermis of East African Grasses, II." Smithsonian Contributions to Botany, 53.

Brian Mason and S. R. Taylor. "Inclusions in the Allende Meteorite." Smithsonian Contributions to the Earth Sciences, 25.

Daniel Jean Stanley. "Parallel Laminated Deep-Sea Muds and Coupled Gravity Flow-Hemipelagic Settling in the Mediterranean." Smithsonian Contributions to the Marine Sciences, 19.

Clayton E. Ray, editor. "The Geology and Paleontology of the Lee Creek Mine, North Carolina, Volume I." Smithsonian Contributions to Paleobiology, 53.

W. Donald Duckworth and Thomas D. Eichlin. "Revision of the Clearing Moth Genus Osminia (Lepidoptera: Sesiidae)." Smithsonian Contributions to Zoology, 361.

During FY 1983, the Smithsonian book program continued to receive acclaim for its editorial, design, and production capability with books receiving recognition from the National Association of Government Communicators (Blue Pencil Award); The Association of American University Presses (AAUP Book Show Award); and The Art Directors Club of Washington, D.C.

Federal publishing plans for FY 1985 will be determined primarily by the Press' client bureaus and offices and depend upon the allocation of funds made available to these bureaus for publishing purposes.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are derived from sales of Trust funded books, records, royalties and special publishing services. They are used to support 32 full-time staff members in FY 1984 and 33 in FY 1985, as well as contractual editing, production, design, promotion, and distribution cost for records, scholarly and general trade publications and general-interest books which are published in connection with the Institution's research, collections, exhibitions and other programs.

The projected increase in expenditures between FY 1983 and FY 1984 mainly results from plans to develop and market to Smithsonian National Associates two major record packages: Classical Virtuosi and American Popular Song. These funds also support the necessary services required to develop, market, warehouse, and distribute records, scholarly, and general-interest books which are published in connection with the Institution's research, collections, exhibitions, and other programs.

Books published during FY 1983 include Rockets, Missiles and Spacecraft of the National Air and Space Museum; The Muses Flee Hitler; Beauty and the Beasts: of Art, Museums, and the Law; Stagecoach East: Stagecoach Days in the East from the Colonial Period to the Civil War; and Hummingbirds of North America. Direct-mail books include The Thread of Life and The National Museum of Natural History.

Marketing plans for FY 1985 are predicated on the development of three major direct mail books, two new recording packages, and approximately 30 new titles by the scholarly press division. To accomplish marketing objectives, there will be a substantial increase in direct costs for surveys and market testing and for additional direct mail promotions. Production and operating costs have risen in response to higher prices from commercial suppliers, and service costs continue to increase; therefore, the long-range projections for the SI Press indicate a modest but steady growth for future years.

OFFICE OF THE ASSISTANT SECRETARY FOR MUSEUM PROGRAMS
AND
OFFICE OF MUSEUM PROGRAMS

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|------|------------------------------------|------|-----------------|------|------------|-------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 21 | 821 | - | 6 | - | 58 | 3 | 323 | - | 1 |
| FY 1984 Estimate | 21 | 852 | - | 19 | - | 52 | 3 | 1,069 | - | 4 |
| FY 1985 Estimate | 21 | 877 | - | 6 | - | 43 | 3 | 315 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Education and Public Orientation...25

ABSTRACT - The Office of the Assistant Secretary for Museum Programs coordinates and provides direction to the Institution's central museum management and program support activities; maintains a liaison with national and international museum organizations; undertakes special studies for museum operations and methodologies; and assists and advises the Secretary on these and related matters. The Office also furnishes advice and technical assistance to other museums; performs studies on the effectiveness of museum exhibits, programs and management methods; conducts training seminars and workshops for museum personnel; and disseminates technical information on museum practices. Closely aligned to the immediate Office of the Assistant Secretary for Museum Programs and included in this line item are the Office of Museum Programs and the Office of International Activities. The Office of Horticulture and the South Group Buildings Management, which are under the direct supervision of this Office, are included in the Facilities Services section of this budget request since their functions relate more closely to those of the Office of Plant Services. For FY 1985, an increase of \$25,000 is requested for the Office of Museum Programs to support workshops and residencies related to the Native American Program as well as resources for the costs related to video and slide-cassette production.

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

In cooperation with other units of the Institution, 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. The Office has worked closely with the General Services Administration, the architects, and the museums that will occupy the facilities of the Museum Support Center in the development of the specifications for the storage equipment to be used, in the planning for the transfer of the collections, and the implementation of the operating requirements. The Office is coordinating the development of a conservation training program at the MSC to be administered by the Conservation Analytical Laboratory. The Office of the Assistant Secretary for Museum Programs also has administered the accelerated program of collections inventory begun in FY 1979 and will coordinate the process of reconciliation.

Within the museum profession, the Office works closely with museum organizations and professionals, both nationally and internationally, the American Association of Museums and the International Council of Museums as examples, to support the enhancement of scholarly, exhibition, and educational functions of museums; to encourage the development and application of new techniques for museum administration and practices; and to establish and improve museum training programs, particularly in conservation.

II. Office of Museum Programs: The Office of Museum Programs conducts specialized training programs for museum personnel from American and foreign museums including some programs designed particularly for the Native American community; arranges internships in museum practices and a program for professional visitors. The Office plans and conducts special conferences 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; and administers a special national project to expand the educational influence of museums.

The Museum Training Program offers workshops and seminars, taught primarily by Smithsonian staff, for individuals employed by museums throughout the United States and abroad. The courses are offered to improve museum practices in such areas as management, design and production of exhibits, conservation awareness, educational programming, registration methods and automation, public relations and publications, audiovisuals, library and archival organization, curation and collections management. In FY 1983, 30 workshops attracted 450 museum professionals. The on-site program of nine workshops in 1983 and 12 in 1984, which were conducted at no cost to the Institution, is being expanded as more cooperating museum organizations request training closer to local museum sites in an effort to reduce travel costs.

In FY 1982, approximately 80 museum professionals and students from the United States and other countries participated in the museum practices internship program conducted by the Office of Museum Programs. In cooperation with various bureaus and offices of the Institution, interns were placed throughout the Smithsonian with the units that could provide the appropriate experience for each individual. As the need for specialized knowledge of museum practices continues to grow, the number of interns at the Smithsonian is expected to increase in FY 1984 and in FY 1985. A special museum careers orientation series for a District of Columbia multicultural high school program is being conducted in 1983 and over 30 individuals have been accepted into the program. The Visiting Professionals Program was expanded during 1983, and has accommodated over 100 museum professionals from the United States and abroad for short-term visits ranging from one day to one month at the Smithsonian Institution. Schedules of appointments are arranged with staff in most Smithsonian Institution bureaus and offices, as well as itineraries for visits to other museums in the United States. In FY 1983, the Office of Museum Programs, with funding from and in cooperation with the

United States Information Agency, organized the fourth annual 30-day tour of United States museums for foreign museum professionals, commencing with a five-day seminar on museum education at the Smithsonian. Another program is being planned for the spring of 1984, and the United States Information Agency has been requested to underwrite a similar project for FY 1985.

III. Office of International Activities: The Office of International Activities fosters and coordinates international aspects of Smithsonian research and museum programs. The Office serves the Institution's interests abroad through continuing liaison with agencies of the United States Government, and with foreign governments, international organizations and private institutions. In addition, the Office obtains passports and visas for Smithsonian travelers, assists in foreign arrangements and contacts to facilitate research and other official business, and provides assistance to foreign dignitaries, scholars and students participating in the Smithsonian programs in this country. In the course of the year, the Office provided advisory and informational services to more than 200 Smithsonian projects involving activities abroad. Since FY 1982, the Office has published a Handbook for International Activities to serve as a guide for Smithsonian personnel involved in international projects and has also initiated a Quarterly Newsletter to provide current information on research exchanges in foreign areas for all concerned staff.

EXPLANATION OF PROGRAM INCREASE:

Education and Public Orientation (\$25,000) - For FY 1985, an increase of \$25,000 is requested for the Office of Museum Programs to support workshops and residencies related to the Native American Program as well as resources for the costs related to video and slide-cassette production. The Native American communities have demonstrated a need for professional museum training and look to the Smithsonian for assistance. The Office of Museum Programs is seeking organizations and other museums to share the costs so that Native Americans may attend on-site workshops and experience residencies in departments and offices of the Smithsonian. A base of \$10,000 will allow the Smithsonian to share costs with other institutions, tribal communities and museum-related organizations. There are approximately 100 Native American communities involved who can benefit from the training and technical assistance of the Office of Museum Programs.

The Audio-Visual Loan Program of the Office of Museum Programs successfully is circulating 114 audio-visual training programs throughout the United States and abroad. Since 1974, nearly 5,600 loans have been made and the demand is increasing annually. The Loan Program places its major emphasis on preventive care of collections, making it one-of-a-kind in the United States. Conservation is of primary concern to the Smithsonian and to its constituencies everywhere. Outside funding is being investigated to expand the Program, but in order to produce a minimum of two video tapes and two slide-cassette programs a year, the Office of Museum Programs base requires an increase of \$15,000. The average cost is approximately \$7,000 per video tape and \$3,000 per slide-cassette program. The resources of the Institution provide a pool of expertise unequalled in the United States. Nonconservation staff of the Smithsonian have benefitted enormously from being able to view these programs, and plans are being considered to provide audio-visual aids for the Conservation Training Program at the Museum Support Center.

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. These funds are utilized programmatically for maintenance purposes only. A publications Trust fund was established to handle the sale of the Office of Museum Programs' publication Museum Studies Programs in the United States and Abroad so that the book may be revised and updated every two years. Recent allotments have been provided from the Smithsonian Institution's Women's Committee (in the amount of \$5,000) to produce a video tape on "Conservation Bookbinding," and from the Institution's Educational Outreach Funds (in the amount of \$18,000) to conduct a national workshop for Native American museum directors. An allotment in the amount of \$5,000 made it possible for the Office of Museum Programs to compile an inventory of all audio-visual programs produced by the Smithsonian for internal reference purposes at the Institution.

Restricted Funds - The Office of Museum Programs received a grant of \$1.1 million from the Kellogg Foundation in 1982 for a three-year project to "expand the educational influence of museums." The purpose of the grant is to enable the Smithsonian to assume a leadership role in creating 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, community-resources workshops, residencies, and video tapes are being planned and organized to involve directly over 400 museums. Grants also were received from the Society of American Archivists (\$6,000) for a slide-cassette program on "Native American Archives," and from the Hazen Foundation (\$3,000) to support an intern from Ghana. The Office of the Assistant Secretary for Museum Programs also is seeking funds (\$65,000 in FY 1983 and \$470,000 in FY 1984) to support the "Treasures from the Shanghai Museum--6,000 Years of Chinese Art" exhibit in the Evans Hall.

OFFICE OF THE REGISTRAR

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|--------|------------------------------------|--------|------|--------|------------|--------|----------------------------|--------|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount |
| FY 1983 Estimate | 2 | 89 | - | - | - | - | - | - | - | - |
| FY 1984 Estimate | 2 | 93 | - | - | - | - | - | - | - | - |
| FY 1985 Estimate | 2 | 93 | - | - | - | - | - | - | - | - |

*FTP = Full-time permanent positions

ABSTRACT - The Office of the Registrar is responsible for Institutional development, oversight and coordination of collections management policies, including advice to management concerning accountability procedures and information management techniques for all museum objects and specimens held by the Smithsonian. It is charged with overseeing cyclical collection inventories and inventory-related activities such as reconciliation of findings with existing records. No program increase is requested for FY 1985.

PROGRAM - In 1976, traditional registration functions of the Office of the Registrar were decentralized and emphasis was shifted from record keeping to improvement of policies and practices in collections management. From the 1880s to 1976, the Office provided centralized registration services for only the Museums of Natural History and American History; but at the time of decentralization, its mission was expanded to provide support for all Smithsonian bureaus engaged in the management of collections.

When collections inventory control was designated as an urgent Institutional priority, the Office developed the Smithsonian's basic inventory policy and subsequently was charged with overseeing baseline collection inventories in all Smithsonian museums from 1978 to 1983 and cyclical reinventories after that. This charge now encompasses reconciliation of inventory findings with existing records and enhancement of all records to provide improved accountability for collections. Meanwhile, the Office monitors collections management policies in the Institution's museums and provides coordination for the processing of policy documents. In further support of the activities, the Registrar's Office conducts seminar programs, initiated in FY 1978, in the information management aspects of collections management. Additional workshops on collections management also are held at least twice a year in cooperation with the Office of Museum Programs for museum professionals throughout the country. Other continuing responsibilities of the Office include coordinating the Smithsonian Registrarial Council, through which interbureau registrarial business is conducted and cooperative procedures are developed; and maintaining contact with national and international organizations concerned with the application of computers to collections management functions and also with other museums involved with the development of systems for such applications.

CONSERVATION ANALYTICAL LABORATORY

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 21 | 914 | - | - | - | - | - | - | - | - |
| FY 1984 Estimate | 21 | 951 | - | - | - | - | - | - | - | - |
| FY 1985 Estimate | 21 | 951 | - | - | - | - | - | - | - | - |

*FTP = Full-time permanent positions

ABSTRACT - The Conservation Analytical Laboratory (CAL) primarily is responsible for advising and assisting Smithsonian museums in the study and the preservation of the National Collections. It provides extensive conservation, analytical, informational and educational services for this purpose. CAL will be relocating to the Museum Support Center by the end of FY 1983.

PROGRAM - CAL was established in 1963 to serve the museums of the Smithsonian Institution. Staffed by conservators, scientists and information officers, CAL provides expert services for the study and treatment of the collections. These services include: scientific examination of objects; treatment for protection and preservation; analyses of objects to establish facts of interest to scientists and historians; developing, recording and providing data essential for a full understanding of museum collections; advising on environmental conditions within the Smithsonian museums where valuable objects are displayed or stored; and conducting and assisting conservation training programs. A major responsibility of CAL is to provide conservation treatment of objects which cannot be treated locally, which present special problems or which require more specialized equipment than is available in the museums.

During FY 1983, CAL acted on 209 requests for conservation treatment and conservation science investigations from museums and other bureaus of the Institution. Most noteworthy of the numerous objects treated were the corroded, fragile lantern with its red glass intact, raised from the sunken "Monitor," owned by North Carolina and scheduled for a traveling exhibition; a cast iron cannon from the Revolutionary War vessel, the "Defence," belonging to the Navy Memorial Museum; a 19th-century gilt necklace made of iridescent green beetles; a rare Chinese export ("hong") punch bowl; and President Lincoln's top hat.

In the case of these projects, proper evaluation of a course of treatment would have been impossible without the close collaboration of CAL's Department of Conservation Science. The projected upgrading of scientific instrumentation will enhance such collaboration in two important fields: the composition of leather and its deterioration, and the development of appropriate preservation dressings; and the deterioration mechanisms of paper artifacts and their response to the commonly employed treatment method of water washing. Collaboration with the Department of

Archaeometry will continue particularly in the autoradiography of paintings. Senior conservation staff increasingly have become involved in teaching their skills to interns and conservators working in Smithsonian museum conservation laboratories.

General preservation activities, such as fumigation of infested objects and environmental monitoring in various museums and bureaus, continue. CAL accommodated the fumigation needs of five Smithsonian museums with 13 fumigation treatments. With 74 hygrothermographs in various locations, CAL monitors the environmental conditions of collections in ten buildings, including Cooper-Hewitt.

CAL staff continues to lecture at international and national meetings, and also to specialized audiences through conservation workshops administered by the Office of Museum Programs. Some of these have resulted in papers published in specialized journals. CAL's information group has continued to update its reprint file by adding about 2,000 items per year to a collection of over 9,000 reprints.

Data processing furnishes vital support to CAL for both statistical compilation of scientific data and for access to conservation reports. Access through CAL's own terminal to the computerized index of "The Art and Archeology Technical Abstracts," held at the British Museum Research Laboratory, makes this material easily retrievable. Additional abstracts, gathered and prepared by CAL staff from national or local sources were indexed through an optical reader system. It is anticipated that this data eventually can be incorporated in an international data base. Research and treatment reports prepared by CAL staff are edited carefully so that they may be of greatest use to other conservators who may wish to consult the data they contain. The editor of these reports also subsequently prepares key words and abstracts for entry into a computerized retrieval system. By 1981, the existing Smithsonian system had reached saturation and consequently CAL has been working with DIALOG, a commercial data base, through the Office of Information Resource Management, to implement a system which can handle the volume of data and serve its users in the most effective manner. Conversion of the old SELGEM file to the Lockheed DIALOG System was completed in March, and the file is operational. Abstracts of 200 conservation reports have been added to the on-line DIALOG system this fiscal year. In developing key word lists, CAL has striven to employ those used by "The Art and Archeology Technical Abstracts" and the International Centre for Conservation in Rome. The aim is to have CAL's resources become part of a body of conservation information that will be an important component of the growing international network of data bases.

The Conservation Science Department continues in its established role as both a research and a service laboratory. Research focuses on issues of broad concern to both conservators and other museum personnel while the service aspect of the Department consists of answering diverse queries whose common themes are technical studies of the Institution's collections and their preservation. Many "routine" analyses were conducted. For instance, white specks growing on a fish stored in alcohol were found to be fat which was exuding from the fish. A white powder, on 19th-century jewelry made from dried beetles, was discovered to be arsenic trioxide applied in years past to arrest infestation by smaller beetles that had attacked the larger beetles. Flaking paint from the Ape House at the National Zoo was determined not to contain lead or other toxic metals. Snowy material in a plexiglas jar containing a snake in alcohol was found to be plexiglas which had dissolved and reprecipitated.

Two extensively deteriorated objects of cellulose nitrate--one from New York and one from abroad--were documented thoroughly. Investigation continued of rapid corrosion of lead sheeting inside the roofs of museum buildings. Two examples of organic acids inducing corrosion of copper alloys were investigated: candlesticks affected by wax, and waxed copper plates with incompletely-removed printers' ink.

In preparation for the move of the Conservation Analytical Laboratory to the Museum Support Center, the staff is evaluating current CAL documentation systems as well as reviewing and redefining the laboratory layouts for the MSC. The move to the Support Center will not only provide new and less restricting facilities but also enough additional space to consider the purchase of a gas chromatograph-mass spectrometer. This greatly would expand CAL capabilities in the analysis of complex organic materials, and open new fields of research. Precise characterization of organic archeological materials will provide more information to be used in establishing material sources, methods of material processing, and the use and provenance of artifacts. A library of "fingerprints" of different materials will be collected. Complete and precise analyses of conservation materials will reduce reliance on empirical testing. In collaboration with other Smithsonian departments, various new research topics can be initiated especially in the chemical taxonomy of plants and the analysis of native dyes.

Archaeometry integrates the natural science analysis of objects with their archeological, anthropological, art historical and cultural backgrounds. It provides curators, archeologists and historians with basic research data concerning date, attribution and technologies of earlier production methods. The work of the archaeometry staff of CAL is complemented by post-doctoral fellows, visiting scientists and research associates in archaeometry. In addition to working in CAL laboratories, fellows, research associates and visiting scientists work in such laboratories as those at the National Bureau of Standards, the United States Geological Survey or the Department of Mineral Sciences of the National Museum of Natural History/Museum of Man which are appropriate to the nature of the research being performed. These fellowships have been developed to allow post-doctoral candidates the opportunity to bring their specialized training and interests to study problems associated with archaeometric research. Two such fellowships were awarded in FY 1983. These archaeometric research studies which cover a variety of fields and the use of the resources of both Smithsonian and other institutions' collections are often long-range in scope. They present further depth of insight and new avenues of investigation as gaps are filled with the available data. Thus, work continues on the source of early iron blooms found in the vicinity of Baffin Island, Canada and on ceramics (3500 B.C.) from Tel el Malyan, Iran. New work, accomplished in coordination with the Department of Conservation Treatment includes neutron-induced autoradiography of paintings, particularly those by the American artist Thomas Wilmer Dewing; also, studies of scoriae from metal working areas and obsidian from Tel el Malyan (adding a further dimension to the ceramic studies), and studies of 15th- and 16th-century production of Spanish Majolica and of nephrite artifacts from sites in Labrador. A major aspect of CAL's archaeometric studies involves cooperation with the National Bureau of Standards in a regular series of co-sponsored seminars. A total of six papers was presented at four different International Scientific Meetings. Two CAL staff members are organizing the 24th International Archaeometry Symposium to be held at the Smithsonian in May 1984.

To a considerable extent, the damage that occurs to works of art can be minimized by museum staffs if they are thoroughly conversant with environmental requirements and understand the various processes that result in the degradation of objects. To provide for a better informed constituency and to supplement guidelines and personnel consultations, CAL continues to offer a series of 80 videotaped orientation lectures each fall and winter for all interested Smithsonian Institution staff; eight persons received certificates of completion during FY 1983. In addition, CAL staff frequently participate as faculty in Office of Museum Programs' workshops. CAL senior conservators have begun to fill a need by sharing their specific expertise with interns and existing staff in other Smithsonian laboratories. Staff members take an active part in the meetings of the Washington Conservation Guild and the American Institute for Conservation.

The Director of CAL will have responsibility for the Smithsonian Training Program in Conservation which will be initiated in 1985 at the Museum Support Center and which will utilize CAL and other Smithsonian bureaus' human and material resources. The curriculum offered at the MSC will be conducted in association with area universities. In order to facilitate these actions and maintain coordination with other training and conservation work under CAL's jurisdiction at the MSC, all CAL personnel and equipment will be brought together in laboratory and training space at MSC by the end of FY 1983.

SMITHSONIAN INSTITUTION LIBRARIES

(Dollars in thousands)

| Fiscal Year | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | | | |
|------------------|------------------------------------|-------|--------------|------|-----------------|------|------------|------|----------------------------|---|
| | FEDERAL FUNDS | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 99 | 3,737 | 8 | 223 | - | 5 | - | 64 | - | - |
| FY 1984 Estimate | 99 | 3,633 | 9 | 290 | - | - | - | 4 | - | - |
| FY 1985 Estimate | 99 | 4,133 | 9 | 311 | - | - | - | 4 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

| | |
|-----------------------------|-----|
| Collections Management..... | 200 |
| Research Support..... | 210 |
| Automation..... | 50 |
| Administration..... | 40 |

ABSTRACT - The Smithsonian Institution Libraries (SIL) is an important American research library, providing information services to support the research, exhibit, public service and education programs of the Institution. In addition, SIL provides public services directly through its own exhibits, publications, research, internships and seminars. For FY 1985, an increase of \$500,000 is requested to provide necessary support for maintaining and building the Libraries' collections (\$200,000); compensate for the escalating costs of journal subscriptions and book purchases and adequately fund the use of on-line database searching as an important research tool (\$210,000); enable the phased "retrospective" conversion of old manual bibliographic records to machine-readable format compatible with the current cataloguing generated by SIL (\$50,000); and provide additional administrative and clerical support (\$40,000). Increases also are requested relative to the Quadrangle and appear in the Quadrangle section of this budget presentation.

PROGRAM - The Smithsonian Institution Libraries serves the Institution and the public through support of Smithsonian research, museum, publication, and administrative units; through direct participation in the building of national bibliographic networks; and through programs of publications, exhibition, loan, and information services. Its collections of approximately 900,000 volumes and over 20,000 serial subscriptions are available through a system of 36 branch libraries located in the Washington, D.C. area and outside Washington, including the Smithsonian Astrophysical Observatory (Massachusetts and Arizona), the Cooper-Hewitt Museum (New York City), and the Smithsonian Tropical Research Institute (Panama). In addition, SIL is the purchasing agent for all books, journals, and related materials in the Smithsonian. Fundamental to SIL planning is the use of electronic technologies for information transfer and

resource sharing. SIL contributes its cataloguing to a national data base shared by 4,000 libraries. Intensive planning has taken place during the past several years toward adopting currently available computer technology to create a single automated system that will accommodate all library services, including acquisition, cataloguing, information retrieval, transmission of library data between branch libraries, and management information.

The SIL is organized into three operational divisions: Collection Management, responsible for acquisition, preservation, and housing of library collections essential to Smithsonian work; Bibliographic Systems, concerned with automated control of all SIL collections and providing standard descriptions of all holdings; and Reference Service, charged with direct, personal assistance to and interpretation for the scholarly clientele of the Libraries. Cost of the Libraries' system is controlled by the centralization of certain operations: an interdisciplinary reference/information center, an acquisitions and cataloguing division, a consolidated administrative staff, and a conservation laboratory. The branch libraries of the system are dispersed throughout the Institution; they provide direct and local services to researchers through pertinent book collections and specialized reference services.

Collections Management - This function includes selection and deacquisition, cataloguing, conservation, space planning and collections management policies for this large library system. A Collection Development Policy Committee continuously reviews current practices in book and journal selection. The SIL maintains one of the finest book conservation programs in the United States. The Book Conservation Laboratory is responsible for preserving the most valuable of SIL's materials from the deterioration which has resulted from improper storage conditions. In addition, SIL is exploring inexpensive ways to preserve all its holdings, including a mass deacidification project.

SIL's collection resources are supplemented by borrowing books and journals from other research libraries. However, when this is done on a large scale, the quality of research declines; researchers need primary materials at hand for long periods. Although the Smithsonian Libraries borrows much from the Library of Congress and other libraries, such borrowing should be of only peripheral materials; Smithsonian researchers must be able to depend on the strength of SIL's own collections to satisfy their primary research needs.

Bibliographic Systems - Since 1974, SIL has been adding its current cataloguing (inventorying) to a nationally available electronic data base, the Online Computer Library Center, Inc. (OCLC), thus sharing with other libraries in the reduction of cataloguing costs. Since FY 1981, this electronic data is no longer printed onto traditional catalogue cards but, rather is directly copied from the computer machine-readable format onto microfiche, eliminating maintenance of 36 card catalogues. By the end of FY 1983, SIL will have entered some 220,000 of its bibliographic records into the national data base. These became part of the SIL microfiche catalogue and will form the data base for the new automated systems.

Reference Service - SIL provides a full range of reference services typical for a large research library and is developing automated reference services as they become cost effective. Since FY 1978, SIL has employed on-line data bases for the arts (e.g., Art Modern), the sciences (e.g., Chemical Abstracts) and the humanities (e.g., History Abstracts). These up-to-the-minute searches shorten the time it takes to do research. Currently, more than 250 on-line data bases are in use. This program is becoming an increasingly important part of SIL reference work as printed indexes become more expensive and electronic ones more common.

Steady use also is being made of the collections of other research libraries--and by them of SIL's collections. Since FY 1980, much of this sharing has been initiated via the electronic mail feature of the OCLC system. As older SIL manual records have been added to OCLC electronic data base, the quantity of items requested by other libraries from SIL has increased. During FY 1982, library staff answered over 90,000 reference inquiries, of which approximately one-quarter required extensive assistance to the researcher, including on-line searches. In addition, over 44,000 requests for use of materials in the collection were made by Smithsonian researchers and almost 23,000 loans were made to other libraries through the Interlibrary Loan system.

Outreach - The Smithsonian Institution Libraries, as a library system serving a large museum/research complex, increasingly has been aware of its national and international responsibilities, especially in the area of exhibitions and seminars. A translation program administered by SIL with Special Foreign Currency Program funds has made available to scholars about 900 otherwise inaccessible scientific monographs.

In FY 1983, exhibits were mounted on early lithography in the United States, on the ornithological works of Thomas Brown, on the SIL's large American trade literature collections, and on recent outstanding gifts to the SIL. A regular program of exhibits is prepared for the future. Furthermore, FY 1983 saw SIL sponsoring the following lectures and seminars: M. Henderson on the Z.39 Committee of the American National Standards Institute; P. Weimerskirch on "Beginnings of Lithography in America"; and "The Use of American Trade Literature Collections: a seminar" by Smithsonian and Eleutherian Mills Historical Library experts.

Outreach occurs, of course, through regular reference and loan services to other institutions. For example, in FY 1983 the Museum Reference Center Branch responded to over 2,000 inquiries.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of \$500,000 is requested to provide necessary support for maintaining and building the Libraries' collections (\$200,000); compensate for the escalating costs of journal subscriptions and book purchases and adequately fund the use of on-line database searching as an important research tool (\$210,000); enable the phased "retrospective" conversion of old manual bibliographic records to machine-readable format compatible with the current cataloging generated by SIL (\$50,000); and provide additional administrative and clerical support (\$40,000). Increases also are requested relative to the Quadrangle and appear in the Quadrangle section of this budget presentation.

Collections Management (\$200,000) - In order to maintain its position as an important American research library, the Smithsonian Institution Libraries must build on the strengths of its collections, prevent the occurrence of gaps in its holdings in research fields of traditional and developing Smithsonian competence, and take full advantage of the increased efficiency and technological potential of automation in all of the Libraries' operations. However, in comparison with other similar academic institutions, the collections are not adequate to support the full scope, depth and breadth of research undertaken by the Institution. The goal of SIL is to achieve gradually parity with comparable research institution libraries in order to provide maximum support for the Institution's research demands.

The requested increase for FY 1985 is the first step in this five-year plan to bring the quality of the Libraries' collections and related services up to the necessary level of parity with comparable institutions. The planned improvement is based on the foundation of balanced growth. The necessary increases in collections acquisition funding create increased needs for the related acquisition, cataloging,

conservation and reference services that must be addressed in order to utilize the new library material. Therefore, additional funding for these related support services is requested: in-house acquisition/binding, cataloguing, and selection, reference, and collection maintenance services (\$48,000); contractual services for cataloguing and binding (\$38,000); and increased demands for shelving and rental space (\$84,000).

Moreover, in order to gain better bibliographic and circulation systems control over library research material that had been allowed in the past to be used on extended long-term loans to curatorial offices throughout the Institution without adequate record-keeping, SIL requests funds for two temporary library technicians to conduct an Institution-wide survey to search for material on extended loan that has not previously been recorded in SIL cataloguing or circulation records (\$30,000). New records generated by this search will be entered directly into the Libraries' automated system.

Research Support (\$210,000) - SIL requests \$170,000 to cover rising book and journal acquisition costs which have been subject to the considerable inflationary pressures in the publishing industry, as well as the necessity of keeping pace with the rapidly expanding volume of journals and scholarly publications in the past several years. The FY 1984 projected cost of book and journal purchases totals \$718,000 and will grow to approximately \$900,000 for FY 1985. Currently, the average annual inflation factor in the publishing industry is 15 percent for journal subscriptions and 17 percent for book purchases. Moreover, SIL subscriptions to more technical and academic journals have increased at a much higher rate than the average; among the more dramatic increases in subscription costs from 1982 to 1983 have been: the Journal of American Folklife (40%), American Zoologist (42.8%), Marine Chemistry (51.8%), Journal of Archaeological Science (60%), Precambrian Research (61.2%), and Foreign Policy (66.6%). In fact, some very specialized journals have experienced recent increases that have doubled the level of the 1982 subscription, such as Environmental Biology of Fishes (96.4%), Ocean Development and International Law (100%), Chemical Abstracts--Biochemistry Sections (100%), and Atomic Data and Nuclear Data Tables (124.3%). These rising journal prices have also contributed to the erosion of funding available for book purchases, compounding the loss of purchasing power for book collections. In FY 1979, journal subscriptions accounted for 45.9 percent of actual SIL expenditures for collections purchase; by FY 1982, the costs of subscriptions had risen to 55.8 percent of the total acquisitions budget.

Should the resources for book and journal acquisition not keep pace with the growth of available research material and compensate for the continuing loss of real purchasing power in the publishing industry, the negative impact of this loss will have severe short-term and long-term consequences. In the short-term, research using SIL collections would be more difficult, time-consuming and less efficient, since it would not be possible for scholars and researchers to locate the most recent literature in their field at the Smithsonian. Rather, they would have to depend on finding large portions of the research material they need scattered in different libraries around the Washington, D.C. area or around the country.

In the long-term, continuing failure to attain adequate funding for book and journal purchases would have the cumulative effect of severely weakening the research capability available at the Smithsonian. It would create irreparable gaps in the Libraries' holdings in major research fields, especially those that are currently rapidly expanding or still developing, and eventually force the reevaluation of the Smithsonian's excellent reputation as an outstanding research institution.

The emergence of bibliographic databases and other automated research systems has served to increase greatly the types of reference assistance available from research libraries and to expand vastly the potential of handling complex and comprehensive research questions efficiently and successfully. Since the introduction of on-line database searching by the SIL in FY 1978, the recognition of its value by Smithsonian research staff has caused a many-fold increase in demand. Because of the increase in the quantity of scholarly literature and the greater degree of interdisciplinary study and publishing, this new technique has become an important reference tool and an integral part of the research process at the Smithsonian as it has everywhere. In FY 1983, \$29,000 was allocated from existing resources for this purpose and was depleted by March 1983; therefore, \$40,000 is requested to adequately fund this important research tool in FY 1985.

Automation (\$50,000) - The SIL's total automation project has as one of its goals the elimination of manual files because of their limited access points and costly upkeep. The funds requested here are to continue the conversion of the SIL's old manual card catalogue to automated form so the records can be maintained by the automated bibliographic control system.

Since 1974, all cataloguing at the SIL has been done by creating machine-readable records using the OCLC computer system and following all relevant national standards. In addition, over the two fiscal years 1982 and 1983 the SIL has been able to find money (mostly from grants) to "retrospectively" convert manual records created between 1966 and 1974 to machine-readable form. Therefore, approximately 220,000 records are now in automated form.

The SIL now needs to convert records from the foundation of the Smithsonian Libraries up to 1966. This is estimated to be another 150,000 records, and--since they are older and less complete--the cost will probably be greater than the 90 cents per record price that the contractor charged for the newer records. It is expected that the total cost will be on the order of \$300,000. The requested increase of \$50,000 would be used to begin the conversion and upgrading of these pre-1966 records. Until the older records are converted, there will be a continuing need for a duplicate manual system of catalogues, loan records, etc. The Smithsonian will not realize the full efficiency of its new automated bibliographic control system until all SIL records are converted.

Administration (\$40,000) - With the complete implementation of the automated systems in the Libraries and the initiation of the five-year planned development of the collection, the demands for administrative support within SIL will increase simultaneously. The requested increase of \$40,000 would allow for the training of personnel, associated travel costs and other support costs necessary to maintain and administer the new bibliographic system.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by allotments and are used primarily to support nine full-time positions and various support costs such as supplies, book binding and training.

Restricted Funds - These are provided through gifts and grants from individuals, foundations, endowments, organizations and corporations for specific purposes. For example, awards from the Seidell Endowment Fund are being used to supplement the cost of conversion of traditional catalogue cards to a machine-readable format and to publish a catalogue of the manuscripts in the Dibner Collection (estimated expenditures of \$60,000 in FY 1983). Gifts from the Dibners are being used to establish stipends for research on the Dibner Collection.

OFFICE OF EXHIBITS CENTRAL

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 45 | 1,414 | - | - | - | 9 | - | - | - | - |
| FY 1984 Estimate | 45 | 1,451 | - | - | - | 4 | - | - | - | - |
| FY 1985 Estimate | 45 | 1,451 | - | - | - | 2 | - | - | - | - |

*FTP = Full-time permanent positions

ABSTRACT - The Office of Exhibits Central (OEC) assists in designing, producing and installing a wide variety of exhibitions and exhibit-related programs for Smithsonian bureaus, museums or program offices who lack internal exhibit production capabilities. No program increase is requested for FY 1985.

PROGRAM - OEC provides professional services to design, edit, fabricate, produce, install, and maintain museum exhibitions and related products. These services greatly expand the resources of Institutional units that do not have full-time exhibit staff, and OEC supplements the capabilities of the exhibit departments at Smithsonian museums. Services are provided depending on the specific need of the requesting unit, from a complete exhibition to a single component. During exceptionally busy periods, OEC will consult and refer work to other production sources. Relying on its long record of involvement in all types of public presentations at the Institution, OEC provides broad and in-depth experience in the planning and preparation of museum exhibitions.

Since its establishment in 1972, OEC has designed and produced between 20 and 25 traveling exhibitions a year for the Smithsonian Institution Traveling Exhibition Service (SITES), has provided services for every Folklife Festival and has served as faculty in all Office of Museum Programs Workshops for Museum Professionals on exhibitions and exhibit-related specialties. In-house, hands-on training continues to be provided for qualified interns sponsored by universities and museums in the United States and abroad. OEC staff are regularly invited to consult with or participate in training courses at other museums. On a time available basis, OEC also provides advice to many other organizations on exhibition and exhibit-related matters-- including the White House, the Office of the Architect of the Capitol, the Supreme Court, the Federal Bureau of Investigation, the United States Information Agency, The Children's Museum of Washington, and others.

OEC schedules all projects months in advance; major, complex projects up to two years in advance. Approximately 250 separate projects are completed each year. All projects are recorded, and hourly and dollar expenses accounted for and reported quarterly. A computer terminal has been installed at OEC and will be "on-line"

completely this year to improve all accounting procedures. Design and administrative offices, a cabinet shop, spray paint shop, sheet plastic shop, graphic production shop, and a highly sophisticated model shop now are located at 1111 North Capitol Street. The freeze-dry lab is being relocated there in the near future, further consolidating OEC resource capabilities.

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 motion picture film prints sold at cost to museums, libraries and related educational organizations; sales 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.

SMITHSONIAN INSTITUTION TRAVELING EXHIBITION SERVICE

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|------|------------------------------------|-------|-----------------|------|------------|-------|----------------------------|----|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 6 | 277 | 19 | 1,283 | - | 3 | 3 | 1,563 | - | 18 |
| FY 1984 Estimate | 6 | 292 | 21 | 1,354 | - | - | 7 | 2,035 | - | - |
| FY 1985 Estimate | 6 | 449 | 23 | 1,450 | - | - | 6 | 1,148 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Base Deficiency.....37
Exhibitions and Performances.....120

ABSTRACT - The Smithsonian Institution Traveling Exhibition Service (SITES) offers traveling exhibitions covering a wide range of subject matter in the fields of art, design, technology, history, science, anthropology, education and the environment. These include exhibitions from the Smithsonian's collections as well as those organized and loaned by numerous private collectors, foreign governments, museums and other organizations throughout the world. For FY 1985, an increase of \$157,000 is requested for a base deficiency in salaries related to international exhibitions (\$37,000); for the development of two poster panel shows (\$70,000); and for support for non-reimbursable shipping costs (\$50,000). There also are increases requested associated with the Quadrangle which appear in the Quadrangle section of the budget presentation.

PROGRAM - SITES currently is in its 31st year of providing exhibition services to qualifying organizations in the United States as well as abroad. The exhibitions are complete programs accompanied by curatorial and registrarial information, handling instructions, technical information, public affairs materials, suggested educational activities, and in many instances, catalogues. The Service is the largest of its kind in the United States and the only one which provides a broad program encompassing the diverse disciplines and subject matter represented in the collections and museums of the Smithsonian Institution.

SITES shows are seen by millions of people each year through local museums, galleries, and educational and cultural institutions. SITES also has become an essential element in the program and resource planning of thousands of exhibition-sponsoring organizations. Organizations benefit directly from the traveling exhibitions by being able to book an exhibit for a fraction of the cost that would be required were they to develop the exhibition themselves. The Federal support received by SITES allows exhibitions to be developed, toured and provided to these

organizations at affordable costs. During FY 1983, an average of 114 shows was on tour at any given time. News of these shows reached the over 7,000 institutions on SITES' mailing list through the annual catalogue (UPDATE), the quarterly newsletter (SITELINE) and special mailings prepared by SITES.

During FY 1983, 30 new exhibitions joined SITES' program, of which 24 contained original objects, four were panel exhibits and two were poster panel exhibits. There were a total of approximately 450 bookings of SITES exhibitions, attended by an estimated seven million persons in 44 states, in addition to Canada, Puerto Rico, European countries and the Orient. It is expected that the number of exhibitions on tour again during FY 1984 will average 120 with a further increase in FY 1985.

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

Federal assistance received by SITES is essential for achieving one of the goals of the Traveling Exhibition Service, which is to assure that fees paid for shows remain within the budgetary reach of participating museums and galleries. SITES will be able to maintain 47 exhibitions during FY 1984 that rent for \$1,000 or less. This target makes it possible for hundreds of potential exhibitors with limited financial resources to present exhibits of high quality. It is precisely those organizations that benefit most from Smithsonian traveling exhibitions, for they generally lack their own exhibit design and production capabilities. The growth in the number of these smaller organizations is astounding. SITES continues to receive an average of 200 requests for information monthly; of that number, about 30 are added to SITES mailing list. With a growing number of organizations drawing on SITES resources, and with high costs placing a severe burden on museums throughout the country, the need for well-developed, low-cost exhibitions is more necessary than ever.

SITES currently is planning to circulate two major shows during FY 1983: "The Archeology of Israel" and "The Precious Legacy: Judaic Treasures from the Czechoslovak State Collections." SITES will be dedicating a considerable amount of staff time to this preparation and production. In addition, a major exhibition of Syrian antiquities under the title "From Ebla to Damascus" is in the planning stages during FY 1983, and it will begin its tour during FY 1985. The exhibit "American Porcelain" will be touring throughout the Orient during late FY 1983, through FY 1984, and will return to the United States during early FY 1985. The United States Information Agency has sponsored the museums showing this exhibition, contributing directly to those institutions for participation fees and shipping. This is the first time that SITES' International Program will travel to the Orient.

New Exhibitions

Based on Smithsonian Sources

FY 1984: "The Artist and the Space Shuttle"; "Building the Brooklyn Bridge"; "Family Folklore"; "In Touch: Printing and Writing for the Blind in the Nineteenth Century"; "Matchsafes"; "Sculpture: Exploring Three Dimensions."

FY 1985: "Mathew Brady Photographs from the National Portrait Gallery's Meserve Collection."

Based on Other Sources

FY 1984: "America's City Halls"; "The Art of the Cameroon"; "Beaumont Newhall: A Retrospective"; "Biblical Paintings of J. James Tissot I"; "Biblical Paintings of J. James Tissot II"; "Center Space: Pueblo Indian Architecture"; "Flowering of Science: Plants from Captain Cook's First Voyage, 1768-1771"; "The Archeology of Israel"; "Jack Lenor Larsen: 30 Years of Creative Textiles"; "Master Drawings from the National Gallery of Ireland"; "Native Harvests: Plants in American Indian Life"; "The Precious Legacy: Judaic Treasures from the Czechoslovak State Collections"; "Southeastern Potteries"; "South of Winter: Scenes from Arkansas Wildlife Refuge"; "Taking the Biscuit: Victorian and Edwardian British Biscuit Tins, 1868-1915"; "World Print IV"; "Eva Zeisel: Designer for Industry"; "The Long Road Up The Hill: Blacks in the U.S. Congress."

FY 1985: "American Artist Immigrant Experience, 1930-1985"; "From Ebla to Damascus"; "The Pottery and Crafts of Newcomb College."

The following bookings were scheduled during FY 1983, by state:

| | | | |
|---------------|----|----------------------|----|
| Alabama | 4 | Missouri | 14 |
| Alaska | 6 | Montana | 2 |
| Arizona | 2 | Nebraska | 1 |
| Arkansas | 1 | Nevada | 1 |
| California | 27 | New Hampshire | 1 |
| Colorado | 12 | New Jersey | 6 |
| Connecticut | 6 | New Mexico | 8 |
| Delaware | 3 | New York | 27 |
| Florida | 32 | North Carolina | 8 |
| Georgia | 16 | Ohio | 21 |
| Illinois | 22 | Oklahoma | 5 |
| Indiana | 5 | Oregon | 4 |
| Iowa | 7 | Pennsylvania | 15 |
| Kansas | 13 | Rhode Island | 1 |
| Kentucky | 3 | South Carolina | 3 |
| Louisiana | 7 | Tennessee | 11 |
| Maine | 2 | Texas | 32 |
| Maryland | 16 | Virginia | 6 |
| Massachusetts | 7 | Washington State | 5 |
| Michigan | 15 | West Virginia | 5 |
| Minnesota | 6 | Wisconsin | 8 |
| Mississippi | 8 | District of Columbia | 25 |

Total: 404 cities served in 43 states and in the District of Columbia with 429 exhibits, and 25 exhibits going to foreign countries.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of \$157,000 is requested for a base deficiency in salaries related to international exhibitions (\$37,000); for the development of two poster panel shows (\$70,000); and for support for non-reimbursable shipping costs (\$50,000). There also are increases requested associated with the Quadrangle which appear in the Quadrangle section of the budget presentation.

Base Deficiency (\$37,000) - Funds are requested to support the Exhibition Coordinator's position which will generate approximately four shows per year as part of the International Program of SITES. The position also is responsible for already-circulating exhibitions under the International Program.

Exhibitions and Performances (\$120,000) - Support is requested to produce two additional poster panel exhibitions annually (\$70,000). Funds will be used for graphics, framing supplies, crating and related costs. Examples of potential shows are as follows:

Dinosaurs: SITES proposes to collaborate with the staff of the National Museum of Natural History/Museum of Man to produce a traveling exhibition based on its new permanent hall. Educational interpretation for age groups from early elementary to adult would be prepared by SITES education staff to help make the text and illustrations as lively as possible. Nearly every local museum has access to dinosaur skeletons; SITES also would investigate the possibility of sending selected originals or facsimiles along with the panels.

The Wilkes Voyage: U.S. Exploring Expedition of 1838-1842: In 1985, the Evans Hall Gallery at the National Museum of Natural History/Museum of Man will display an exhibition honoring the 1838-42 exploring expedition headed by Charles Wilkes, including scientists of the time. Its discoveries formed the basis of the Smithsonian's natural history collections. SITES is planning a traveling version with panels. Large color images of spectacular Smithsonian specimens could be combined with numerous maps, journal entries and navigational charts, all of which belong to the Smithsonian or the National Archives, to create a truly interesting exhibit. The exhibition would combine natural history and United States history with great human interest stories.

American Dress-Up: An exhibit exploring the history, style, cause and effect of clothing in America is planned in collaboration with The Boston Children's Museum. A panel show is proposed which will contain extensive educational materials. Contemporary dress will be compared with historical and cross-cultural styles to help visitors gain new perspectives on social history and behavior so that they may be better equipped to make observations and judgements about their own clothing. The topic, familiar to all, yet rich in interpretation, is enhanced by an exhibition technique designed to give excitement to the text while bringing objects to life.

Increased support for initial outgoing shipping costs (\$50,000), which have been growing due to an increased number of shows as well as being subject to considerable inflation, will have the effect of stabilizing the participation fee organizations pay for SITES exhibitions. The costs of shipping to initial locations is the most unpredictable variable in SITES' participation fee structure.

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 22 positions and virtually all exhibit development costs including publications, materials, outside specialists and contractual services.

Restricted Funds - Funds are provided in the form of gifts and foundation grants from individuals, organizations and corporations for specific purposes. During FY 1983, several grants were received: from United Technologies for the "Renaissance of Islam" exhibit; from Pepsico, Saks/Jandel, the Armand Hammer Foundation and the Allbritton Foundation for the exhibition "American Impressionism"; from the Barra Foundation for "An American Icon: the 18th-century Image of George Washington" exhibit; from the Mobil Oil Corporation for "The Art of Cameroon" exhibition; from Aramco for "Traditional Crafts of Saudi Arabia"; from Sohio for the show "Inua: Spirit World of the Bering Sea Eskimo"; from Project Judaica for the complete development of the exhibition "The Precious Legacy: Treasures from the Czechoslovak State Collections"; and from the Lion's Club and the Perkins Institute for the Blind for "In Touch: Printing and Writing for the Blind in the Nineteenth Century" exhibition.

Major funding is expected to continue during FY 1984 for the development of important shows. Champion International Corporation is funding "Futurism: Past Visions of America's Future"; the Allbritton Foundation and the Armand Hammer Foundation are considering support for the exhibition "Reflections of the Land, American Painting of the 19th and 20th Centuries." It also is anticipated that major corporate support for "Hollywood - Legend and Reality" will be forthcoming in FY 1984. SITES is seeking funding from other corporations through the Office of Membership and Development of the Smithsonian to produce the following exhibits: "Taking the Biscuit: Victorian and Edwardian British Biscuit Tins, 1868-1915," "From Ebla to Damascus," and "Samuel Bing."

Federal Grants and Contracts - Funding comes from various Federal agencies for the development and touring of specific exhibitions. During FY 1983, the United States Geological Survey provided \$17,000 for the touring of the exhibition "The West Comes East." The United States Information Agency provided support in FY 1982 for the development and, starting in FY 1983, the touring of "American Impressionism" through Europe. No additional funds are anticipated during FY 1984 or FY 1985.

SMITHSONIAN ARCHIVES

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|------|------------------------------------|------|-----------------|------|------------|--------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | FTP* | Amount | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 13 | 475 | 2 | 63 | - | - | - | - | - | - |
| FY 1984 Estimate | 13 | 495 | 5 | 128 | - | - | - | - | - | - |
| FY 1985 Estimate | 13 | 495 | 5 | 150 | - | - | - | - | - | - |

*FTP = Full-time permanent positions

ABSTRACT - The Smithsonian Archives provides archival and records management services to support the research, collections management, educational, and administrative functions of the Institution. No program increase is requested for FY 1985.

PROGRAM - The Smithsonian Archives serves as the official Institutional repository for official records, specimen-related records and the papers of distinguished research staff and provides access to these for administrators, scholars and scientists. The Archives is responsible for a central research repository, an off-Mall records storage center and centralized information systems for archival documentation dispersed throughout the Institution.

The Archives accessioned some 1,300,000 documents in FY 1983, bringing its total holdings to over 20,000,000 documents. Major transfers during the year were received from the Office of the Secretary, the Assistant Secretary for Museum Programs, the Assistant Secretary for Science, the National Zoological Park, the National Museum of American History and the Hirshhorn Museum and Sculpture Garden.

During FY 1983, the Archives processed some 900,000 documents for research use, and responded to 1,075 reference requests. Of these, 649 were from Smithsonian administrators or scholars and 426 from outside scholars. In addition, 502 retrievals were made from the United States National Museum accession records.

The Archives' records management program disposed of 468,000 documents of no historical or legal value in FY 1983. Microfilming of Smithsonian records continued with 89,970 images processed during the year.

Archives and records management programs were established for the Office of the General Counsel and the Office of Audits. Work also was begun in the Office of Information Resource Management, the Office of Smithsonian Symposia and Seminars, the Smithsonian magazine, and the National Museum of African Art. Programs were continued in the National Air and Space Museum, the National Museum of American History, the Hirshhorn Museum and Sculpture Garden, the National Museum of American Art and the Cooper-Hewitt Museum.

During FY 1984, the Archives plans to work on archives and records management programs for the Anacostia Neighborhood Museum, the Office of Information Resource Management, the Office of Smithsonian Symposia and Seminars, the Smithsonian magazine, the Office of Equal Opportunity, and the Archives of American Art and plans to publish a general records schedules handbook for the Institution.

In FY 1985, the Archives will make a major effort to establish archives and records management programs in the Office of Fellowships and Grants, the Office of Membership and Development, the Office of American Studies, the Office of Folklife Programs and the Office of Plant Services.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are provided by allotments and are used to cover salaries of two archivists and various support and publishing costs. Funds also will be provided in FY 1984 and FY 1985 for the publication of the "Finder's Guide to Photographic Collections in the Smithsonian Institution."

NATIONAL MUSEUM ACT

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 3 | 784 | - | - | - | - | - | - | - | - |
| FY 1984 Estimate | 3 | 786 | - | - | - | - | - | - | - | - |
| FY 1985 Estimate | 3 | 1,000 | - | - | - | - | - | - | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Education and Public Orientation...214

ABSTRACT - The National Museum Act (NMA) is a technical assistance program that makes grants for projects that will enhance the quality of museum operations. Through these grants, the Act supports professional training in museum activities, research for the improvement of museum methods, and the dissemination of technical information to the profession through publications and workshops or seminars. For FY 1985, an increase of \$214,000 is requested to bring the level of funding up to the authorization level.

PROGRAM - The National Museum Act uses funds appropriated to the Smithsonian Institution to support projects that will improve museum practices. These funds are granted to museums, professional museum-related organizations and associations, and academic institutions with museum-related programs. NMA-funded projects to 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. Many of them involve advanced training in the field of conservation and scientific research that will result in new techniques for conservators and better methods for the care and preservation of objects.

The National Museum Act Advisory Council, appointed by the Smithsonian Institution, advises and assists the Secretary in identifying priorities and assessing the quality of projects for which support is requested. Members of the Advisory Council represent the principal museum disciplines--art, science, and history--and, as much as possible, all regions of the United States. Only those proposals that include well-qualified personnel and that demonstrate thoughtful planning and the promise of generally benefiting the museum community are recommended for support.

National Museum Act grant programs have produced significant improvements in the quality of services that the museums provide. Since 1972, fellowships, internships and travel-study grants have been available, and individuals supported by the Act are

now making important contributions to the profession as a result. Research projects funded by NMA, especially in conservation, generally have not received support from other funding sources. These projects have led to major advances in the field of conservation and generally have increased knowledge about other museum activities, such as collections management, personnel management, exhibit design, and educational programming. Seminars funded by the Act have provided support to museum professionals on a national level by enhancing their skills in areas that continually are evolving. Other grants have enabled professional museum organizations and associations to offer critical technical services to museums, such as consultations designed to meet the individual needs and problems of specific institutions.

In FY 1983, 144 applications requesting \$2,800,000 were received and reviewed by the Advisory Council. Sixty-two grants totaling \$687,000 were made, of which 77 percent or \$462,000 relate to conservation training and research. Research projects involve such topics as the loss and retention properties of solvents used by conservators, methods for consolidating porous stone materials in various stages of deterioration, and the mechanisms that cause silk fabrics to degrade. Other projects include a workshop on the care and preservation of photographic collections and a seminar on the latest techniques in the use of microscopes for analyzing textiles.

In FY 1984, the National Museum Act will be offering support in six different grant programs, which include Graduate/Professional Education and Training, Museum Internships, Individual Stipends for Conservation Studies, Seminars, Special Studies and Research, and Services to the Field. In September 1983, guidelines for a mid-December deadline will be distributed, and applications will be reviewed in March. In order to coordinate efforts and to meet, insofar as possible, the increasingly complex needs of museums, the staffs of the National Museum Act and of the Office of the Assistant Secretary for Museum Programs work closely with individuals, museums, educational institutions, and professional organizations involved in museum training and research activities. The staff of the NMA also consults regularly with those who administer Federal programs which assist museums and participates in the deliberations and activities of the "Working Group on Museum Policy" of the Interagency Committee on the Arts and Humanities.

EXPLANATION OF PROGRAM INCREASE:

Education and Public Orientation (\$214,000) - Public Law 96-268 (94 Stat.485) authorized one million dollars for the National Museum Act. Legislation currently is pending before Congress for re-authorization of this program. An increasing number of high quality proposals, particularly in the field of conservation, are unable to be funded due to existing dollar constraints. Therefore, an increase of \$214,000 for FY 1985 is requested to augment this vital educational program.

AMERICAN STUDIES AND FOLKLIFE PROGRAMS

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|------|------------------------------------|------|-----------------|------|------------|------|----------------------------|-----|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 5 | 618 | 9 | 445 | - | 15 | - | 30 | - | 308 |
| FY 1984 Estimate | 5 | 650 | 11 | 500 | - | 16 | - | 211 | - | 250 |
| FY 1985 Estimate | 5 | 650 | 11 | 534 | - | 16 | - | 150 | - | 250 |

*FTP = Full-time permanent positions

ABSTRACT - The Office of American Studies and the Office of Folklife Programs are engaged in identification, analysis, documentation and presentation of the variety of traditions which form the foundations of American cultural expression. They have focused as well on foreign folklife traditions whose study sheds light on American cultures. These Offices publish documentary and analytical studies; produce the Festival of American Folklife, which, during its 17-year history, has become the largest annual cultural event in the Nation's Capital; collaborate with other Smithsonian bureaus on mounting folklife exhibitions such as the "Southeastern Potteries" exhibition, which was produced in conjunction with the Smithsonian Institution Traveling Exhibition Service (SITES); present living folk traditions within the context of Smithsonian exhibitions; and engage in cooperative projects with other government agencies interested in traditional culture. No program increase is requested for FY 1985.

PROGRAM - The Office of American Studies sponsors a graduate program in American material culture in cooperation with various universities in and out of the Washington, D.C. area. Four or five seminars a year are offered for academic credit and are taught by the director of the program and by cooperating scholars. In addition to the regular American Studies courses offered to graduates, a number of folklife courses have been added to the offerings recently, taught by guest lecturers from the Folklife Program staff as well as by outside folklife experts.

Publications - The staff of the Office of Folklife Programs is involved in a broad range of publication projects which document and analyze folklife traditions. These publications have grown out of research and presentation programs in which the Office has been involved. In addition, the Office produces scholarly monographs on aspects of traditional culture. Monographs are accompanied by documentary films which visually explain technical aspects of the written treatises. This latter model has proven a useful and important development for the study of folklore and anthropology. In FY 1984 and FY 1985, five monographs with accompanying films will be published, two monographs will be in process with their accompanying films being finished, and two new projects will be initiated. This series, entitled The Smithsonian Folklife Studies Series, is proving to be a significant resource for scholars and students in the social sciences.

The Festival of American Folklife - During the past 17 years, the Festival has developed a large and loyal constituency throughout the Nation. It also has stimulated local interest in the traditional arts in the regions from which folk artists have been brought to the Festival. Such interest, in turn, has fostered research projects, local mini-festivals modeled after the Smithsonian's Festival, and regional markets for traditional craftworkers and performing artists. For the 18th Festival in FY 1984, tentative plans call for major programs from Hawaii and Alaska in honor of the silver anniversary of these states.

Exhibitions and Live Folklife Presentations - Research has been underway to develop an exhibition on the surviving traditional potteries in the southeastern United States. The exhibition, entitled "Southeastern Potteries," is being organized jointly by the Folklife Program and SITES. It will begin a 26-month tour in FY 1984. It will come to the Smithsonian for a 5-week showing from June 1 through July 8, 1984, at the National Museum of American History. The Office of Folklife Programs is planning a pottery program for the Museum's terrace and lawn during the entire 5-week run of the exhibition which will include demonstrations of turning, glazing, and firing by individuals from the potteries represented in the exhibition. These demonstrations will form a major program at the 18th annual Festival of American Folklife, which in 1984 will coincide with the last two weeks of the "Southeastern Potteries" exhibition at the National Museum of American History.

Cooperative Projects - The Office of Folklife Programs has been involved in several collaborative endeavors with government agencies interested in traditional culture. In FY 1984 and FY 1985, this Office plans to work with the Folk Arts Program at the National Endowment for the Arts to develop programs for the 18th and 19th annual Festivals of American Folklife which will highlight the talents of folk artists who have received support and encouragement from the Endowment. In addition, a summer-long exhibition will be planned for the National Museum of American History which will feature works by recipients of the Endowment's annual National Heritage Fellowship Awards.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - 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 is designed to reimburse the Smithsonian Institution for the use of its facilities by the students participating in Smithsonian Institution classes and, in addition, to provide honoraria and reimbursement for the services of outside experts participating in the program (estimated expenditures of \$16,000 in FY 1984 and in FY 1985).

For Folklife Programs, funds are provided from allotments and from concessions sales relating to the Folklife Festival. In FY 1983, funds provided partial support for the "Celebration" exhibition (estimated expenditures of \$23,000). In FY 1984 and FY 1985, funds will pay the salaries of 11 employees of the Office of Folklife Programs as well as related support costs (estimated expenditures of \$494,000 in FY 1984 and \$528,000 in FY 1985).

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 of the Folklife Program. Funds are anticipated from several sources to cover the costs of programs at the Annual Festival of American Folklife (estimated expenditures of \$210,000 in FY 1984 and \$150,000 in FY 1985).

Federal Grants and Contracts - These are provided by various state and local governments for support of performances and programs at the Annual Festival of American Folklife. In FY 1983, funds were received from a non-profit corporation set up by the Governor of New Jersey to cover the costs (\$253,000) of highlighting the folklife traditions of New Jersey; and Continental Telecom Inc. (\$55,000) to cover in part the cost of the Arts Endowment's National Heritage Fellowships program at the 17th annual Festival. Additional grant support is projected in FY 1984 and FY 1985 for the annual Festival (\$250,000 each year).

INTERNATIONAL ENVIRONMENTAL SCIENCE PROGRAM

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|------|------------------------------------|------|--------|--------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | General | | Special Purpose | | FTP* | Amount | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 2 | 648 | - | - | - | - | - | - | - | - |
| FY 1984 Estimate | 2 | 678 | - | - | - | - | - | - | - | - |
| FY 1985 Estimate | 2 | 678 | - | - | - | - | - | - | - | - |

*FTP = Full-time permanent positions

ABSTRACT - The International Environmental Science Program (IESP) coordinates the Institution's long-term monitoring and study of ecosystems. The goal is to evaluate biological diversity in order to understand and eventually predict consequences of human activities. The Program is a multi-bureau, interdisciplinary effort at two permanent Smithsonian sites--the Tropical Research Institute in Panama and the Environmental Research Center in Maryland--as well as at several temporary tropical sites. No program increase is requested for FY 1985.

PROGRAM - The Smithsonian's long tradition in international research and unparalleled collections of natural history objects make it well qualified to sustain scientists abroad. The IESP provides support costs for teams of scientists to monitor natural variations in specific environments that are still unstressed by humans. Recent studies by the National Academy of Sciences, the Council of Environmental Quality and the Office of Technology Assessment have emphasized the need for additional monitoring programs in both the tropic and temperate zones. The State Department sponsored a conference in November 1981 entitled "Strategy Conference on Biological Diversity," which emphasized that the rapid rate of tropical deforestation, loss of suitable soil and the need to inventory and monitor certain ecosystems is of critical strategic and scientific concern to the United States.

The main focus of the Program's permanent sites (at the Rhode River, Maryland, the tropical forest of Barro Colorado Island, and the Galeta Reef on the Atlantic side of the Panama Canal) over the last ten years has been to develop a long-term descriptive data base on biological, physical and chemical components of a series of habitats. The objective is to record the responses of biological populations and environmental processes to variation in seasonal, annual, and long-term patterns in climate, and to stresses and disturbances resulting from man's activities. Analyses of these data have led to the formulation of concepts and testable hypotheses concerning important environmental processes. It has been widely recognized that one of the major weaknesses in environmental research has been the lack of sufficient long-term data sets to distinguish the effects of climatic variation resulting directly from human interventions.

Data collection will continue over the next several years to increase the long-term descriptive data base, and new efforts will be made to develop a series of mathematical models. The models will be able to predict the effects of alternatives in watershed land use and of variation in climate upon nutrient discharge. The models will be tested for predictive capability on data taken during the next six to ten years. It is anticipated that these models will have general application to coastal regions.

Program highlights at permanent sites for FY 1983 include:

The preliminary analysis of data collected at the program's Edgewater, Maryland site for over the last decade was completed in FY 1983. Total phosphorous concentrations in surface waters of the Rhode River estuary were shown to increase four-fold during the summer and fall of the 1970s, then leveled off. Also, phosphorous concentrations in headwaters, tidal areas and watershed stream discharges did not show such large warm weather increases. Other phosphorous and nitrogen parameters remained essentially constant in the Rhode River. These data indicate the increasing impact of lack of oxygen in Chesapeake Bay deep waters on phosphorous concentrations. It is believed that the extent and duration of these anoxic conditions increased during the 1970s.

Nitrogen nutrient inputs to the Rhode River estuary via atmospheric deposit directly onto the water surface and as land runoff were compared for seven years. On average, about the same annual amount of nitrate and ammonia entered the system via precipitation as from land runoff and, during the summer and fall, precipitation was the largest source. The average nitrate content of summertime precipitation doubled during the seven year period. Thus, precipitation is an important nonpoint source of available nitrogen to the estuary.

Data collection on Barro Colorado Island (BCI) has indicated that tropical climates are subject to wider variation than previously theorized. The past year (1983) provided dramatic evidence of this instability. Total rainfall on BCI was 20 percent below the 56-year average of 2.5 meters and the wet season ended abruptly one and a half months early. The ensuing dry season was the longest and driest period; the temperature of the rainfall in the forest during this dry season was 2° - 3° F higher than at anytime during the past ten years.

In FY 1983, mass mortality of the Caribbean sea urchin (Diadema) was first noted on Galeta Reef and has since then been spotted on other Caribbean areas of the Panama Coast, Panama. This urchin is a voracious consumer of marine algae and sea grasses and is known to influence strongly the abundance and distribution of these plants. Disappearance of the sea urchin has already resulted in blooms of fast growing algae on Galeta Reef. These blooms have an inhibitory effect on animal and other organisms in the reef waters as a result of the deprivation of oxygen, reducing the total productivity of the reef.

Program highlights at non-permanent sites for FY 1983 include:

With support from foreign governments, conditions at the Program's temporary sites are being monitored in Brazil, Venezuela, Nepal, Peru and on Aldabra atoll in the Indian Ocean. In FY 1984, program expansion will occur in Nepal with the beginning of a highly structured five-year environmental monitoring program focusing on the phenology of the Chitwan ecosystem.

Venezuela - A major ichthyological survey was conducted across a broad area of the central savannahs of the Orinoco River basin. These extensive collections represent the first comprehensive sample of ichthyofauna of the region available to researchers outside of Venezuela. The sampling yielded five new species to science including one which has significant implications for commercial rearing via fish farming.

Aldabra - The first of five annual visits to Aldabra occurred in FY 1983. Focusing primarily on the intertidal region of the atoll, major new collections were made of this previously little studied ecological zone. The collections and resultant data will aid the international community in protecting this unique area recently declared by UNESCO as a World Heritage Site.

Brazil - Efforts in Brazil are divided between two programs, a reintroduction project focused on golden lion tamarins, and a long-term monitoring program of Brazilian Amazonia. On the former project, initial identification has been made of twelve captive-born golden lion tamarins that will return to Brazil by the end of FY 1983 for eventual release into the Poco d'Anta Reserve. Concurrently, analysis has begun on available habitat for the wild population. Work in Amazonian Brazil continued with efforts now being expanded to Peruvian Amazonia and the Atlantic Forests of Brazil for comparative analysis. Greater emphasis is being placed on understanding the basic vegetation of the region, both from terrestrial and marine ecosystem perspectives. Considerable new data is emerging on the role of tropical forest canopies and the species which inhabit this part of the forest.

Nepal - Research continued on the hog deer in Chitwan National Park with a total population of 50 under intensive investigation including six with radio collars. Questions being pursued include habitat use, movement patterns and activity cycles. Resident tiger populations are being carefully monitored with the assistance of local authorities, and estimates continue to show an upward trend in total animals over the last five years. Efforts have also continued on captive rearing and release of the highly endangered gharial into the river system of the Chitwan National Park.

ACADEMIC AND EDUCATIONAL PROGRAMS

(Dollars in thousands)

| Fiscal Year | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | | | |
|------------------|------------------------------------|--------|--------------|--------|-----------------|--------|------------|--------|----------------------------|--------|
| | FEDERAL FUNDS | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount |
| FY 1983 Estimate | 19 | 672 | 2 | 226 | - | 1,086 | - | 200 | - | - |
| FY 1984 Estimate | 19 | 704 | 3 | 255 | - | 1,182 | - | 192 | - | - |
| FY 1985 Estimate | 19 | 809 | 3 | 278 | - | 1,574 | - | 175 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Education and Public Orientation...30
 Constitution Bicentennial.....75

ABSTRACT - Research and education are among the principal objectives and responsibilities of the Smithsonian. In order to foster and stimulate the pursuit and dissemination of knowledge, the Institution has promoted scholarly and academic ties with other learned institutions since its establishment and has offered its resources for learning--its collections, professional staff, libraries, 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. These goals are carried out by the Office of Fellowships and Grants (OFG), the Office of Smithsonian Symposia and Seminars (OSSS), and the Office of Elementary and Secondary Education (OESE). For FY 1985, an increase of \$105,000 for the Office of Smithsonian Symposia and Seminars is requested for partial support for an international symposium (\$30,000) and funding for a civics seminar series related to the bicentennial of the signing of the U. S. Constitution (\$75,000).

PROGRAM - I. The Office of Fellowships and Grants: The Office of Fellowships and Grants manages Smithsonian fellowships and related academic appointments and administers the Special Foreign Currency Program which provides grants to American institutions, including the Smithsonian itself, for research in "excess" foreign currency countries. Resources for administration of these programs are included here, as are costs of Institutional fellowships. Estimates for costs of the Special Foreign Currency Program are presented in the separate request for that appropriation.

Academic Programs - The National Collections in the Smithsonian's care, and the scholars who curate and study them, together offer unparalleled resources for specialized study in many disciplines, resources which are not available at any university but are essential to many scholars' research efforts. University education rests

on the study of manuscripts or printed material and reproductions of artifacts. At the Smithsonian, historical/anthropological objects, original works of art, natural history specimens, living animals and plants, and ecological systems are available directly for study. Thus, the Smithsonian provides an important complement to university education.

The Institution makes available its resources to students and scholars throughout the country and profits from interchange with them. Residential fellowships provide access to the full range of Smithsonian resources. They are awarded throughout the Institution with nonappropriated Trust funds, enabling fellows to work in all research areas of the Institution and pursue interdisciplinary projects drawing upon the resources of several bureaus. Additional fellowships are offered through nonappropriated Trust funds or appropriated funds designated for the bureaus, providing research and training opportunities more closely tied to current bureau programs and interests.

The Office of Fellowships and Grants coordinates Smithsonian academic internships by publicizing opportunities to students and organizations, distributing applications, administering internship stipends, and along with other Smithsonian offices and bureaus, assisting in the activities of the Smithsonian's internship council. In FY 1983, 65 students were awarded internship stipends. Of these, 23 minority students were supported with nonappropriated Trust funds as part of the Institution's efforts to increase minority participation in its academic and educational programs. The interns were placed in ten different bureaus, working on various projects. In addition, the Office awarded three fellowships to minority faculty members. In January 1983, the Office also assumed responsibility for the Cooperative Education Program, placing students in positions throughout the Institution. During FY 1983, 13 students received appointments in the Program. It is hoped that some permanent employment opportunities may develop through these efforts. In FY 1984, the Institution will continue these special efforts through internships, faculty fellowships and cooperative education appointments.

II. Office of Smithsonian Symposia and Seminars - The Office of Smithsonian Symposia and Seminars designs programs linking the humanities and sciences, with special emphasis on new knowledge and its implications. As an extension of the Institution's educational outreach efforts, the Office's interdisciplinary activities serve advanced scholars, intermediate students, concerned professionals and the general public. Its primary responsibilities include administering the Smithsonian's international symposium series, continuing seminar series, and individual working seminars, all organized around themes of current significance to many academic disciplines receiving widespread public attention.

Of major importance is the Institution's eighth international symposium, "The Road After 1984: High Technology and Human Freedom," scheduled for December 7-10, 1983, in anticipation of the Orwellian Year. The symposium will, of necessity, touch upon 1984's warnings of Big Brother, totalitarian techniques, mind control, doublespeak and other of the novel's forebodings. Its thrust, however, will center on the technological advances giving birth to burgeoning new industries and the information/communication explosion. Organized in cooperation with Wake Forest University on the occasion of its 150th anniversary and with the Center for the Humanities, University of Southern California, the meetings will probe the overall social and political dynamics now at work in the world and attempt to identify both dangers and blessings inherent in the new "high tech" society. The symposium is an official activity of the World Communications Year and will produce a book, edited by Eliot Chapple, distinguished anthropologist noted for his work in computer elaborations and applications.

Earlier in 1983, the Smithsonian Institution Press published The Muses Flee Hitler: Cultural Transfer and Adaption, 1930-1945, co-edited by the associate director of the Office of Smithsonian Symposia and Seminars; the book is based on two colloquia organized by the Office during the Einstein Centennial. Also published by the SI Press in 1983 was How Humans Adapt: A Biocultural Odyssey, based on the Smithsonian's seventh symposium, edited by a curator of anthropology, at the National Museum of Natural History/Museum of Man.

Other accomplishments include: co-sponsorship of "The Work of Peace," a two-day series of meetings held September 29-30, 1983, organized with the American University on historic peacemaking and peacekeeping in celebration of the Bicentennial of the Treaty of Paris which formally ended the Revolutionary War; and working with The Year 2000 Committee toward a major highlighted event in September 1984 at which the Secretary of the Smithsonian will act as host to a panel of seven prominent public figures addressing critical issues before an invited audience of specialists and civic leaders.

In 1985, the Office will begin its first in a series of three programs centering on the Constitution, "Learning the Duties of Citizenship." Following in 1986, will be "Ideas behind the Constitution," and in 1987 "The Pursuit of Justice," organized as the Smithsonian's tenth international symposium.

III. Office of Elementary and Secondary Education - A major 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. By working with other Smithsonian education offices, OESE is the one Smithsonian bureau 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; a Career Awareness Program for minority young people from the District of Columbia Public Schools; and a wide range of services for disabled visitors.

To encourage cooperation and exchange of information among the Smithsonian education offices and between those offices and local schools, OESE offers a number of programs. Two publications--"Let's Go" (a monthly newsletter) and "Smithsonian Sourcebook" (an annual booklet)--are used to inform teachers about the variety of educational opportunities available at the Smithsonian to teachers and students at all grade levels. These publications are sent to approximately 11,000 teachers in the Washington, D.C. area. During FY 1983, a workshop and seminar program for teachers attracted more than 900 participants to 38 programs, including six summer courses enabling 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 seminars on such topics as "teaching life sciences through direct observation," "museums and language development," and "teaching American cultural history through art."

To share these same teaching concepts with a national audience, "ART TO ZOO," a classroom newspaper, continues to be distributed to more than 50,000 teachers and museum education departments throughout the United States. Also, a slide loan package entitled "The Museum Idea," is circulated free of charge, reaching an estimated 1,500 students in FY 1983; and during the summer of 1983, OESE sponsored, in cooperation with the University of Virginia, a graduate level course for a national audience of school librarians, teachers and curriculum specialists on the subject of "Using Museums to Teach Writing." Both formal evaluations and teachers' demand attest repeatedly to the effectiveness and popularity of these national outreach programs.

In FY 1984 and FY 1985, a series of OESE-sponsored "Regional Workshops" will be given in communities across the United States for the purpose of promoting the use of museums as educational resources. It is estimated that 2,000 teachers will be reached through these workshops in the course of an 18-month period.

In FY 1983, the Office continued its work to make Smithsonian programs accessible to disabled visitors by providing interpreters at special events, lectures, and tours. The Office provided guidance to the various Smithsonian museums who 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. All of these programs will be continued in FY 1984.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of \$105,000 is requested for the Office of Smithsonian Symposia and Seminars to provide partial support for an international symposium (\$30,000) and funding for a civics seminar series related to the bicentennial of the signing of the U. S. Constitution (\$75,000).

Education and Public Orientation (\$30,000) - "Musical Genius: An Appreciation of Bach, Handel, and Scarlatti" will be developed as the Smithsonian's major observance of the 300th anniversary of the births of these musical giants. As the ninth in the Institution's international symposium series (begun in 1965 with "Knowledge Among Men," commemorating the 200th anniversary of the birth of James Smithson), this symposium will follow in the now established and successful tradition of its predecessors. The \$30,000 will be used to bring the program's principal participants to Washington, D.C., and to provide for transcription, recording and distribution of materials.

Constitution Bicentennial (\$75,000) - The Office plans a three-year program as a special educational outreach project. The first year will consist of a civics seminar series, "Learning the Duties of Citizenship," which will explore how childrearing practices and other early influences in the life of the individual contribute to his later exercise of rights and duties as a citizen. Specialists from a variety of academic disciplines will be assembled to assess knowledge about how humans learn to take on the responsibilities and privileges of adulthood, including voting and participation in both government affairs and the governance of voluntary associations. Public servants and leaders from the professions, industry and philanthropy will be included in seminars at the Smithsonian organized in cooperation with outside organizations.

The \$75,000 will be used to pay for commissioned essays, bringing the series' principal participants to Washington, D.C., a temporary secretarial assistant, and publishing educational materials generated by the eight sessions.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are provided from allotments which are primarily designated for the Institution's fellowship program (estimated expenditures of \$940,000 in FY 1984 and \$1,320,000 in FY 1985). Smithsonian fellowships serve the national academic community, as well as the Smithsonian's own research staff, and are an important part of the Institution's

endeavors. Fellows provide intellectual stimulus to the work of the Smithsonian curators and scientists by offering new ideas and conveying the latest developments in their fields. Intellectual exchange continues beyond the fellowship year, through lasting collaborations, correspondence, visits and joint publications. The Institution's staff members enthusiastically support the program, spending substantial time and effort to ensure its success. Smithsonian staff members work regularly with visiting fellows and are active each year in the selection process. In FY 1983, 89 awards will have been made to fellows from 65 colleges and universities. Since 1965, 1,120 awards have been made to fellows from 219 schools.

In addition to fellowships for students and younger scholars, a few awards are offered annually at the senior level to scholars and scientists of proven accomplishments. Now in its fourth year, the Regents Fellowship Program, supported with nonappropriated Trust funds, continues to bring distinguished visiting scholars to the Institution (estimated expenditures of \$130,000 in FY 1984 and \$135,000 in FY 1985). Offered for the first time in FY 1983 are the Webb Fellowships, named in honor of the distinguished former Administrator of the National Aeronautics and Space Administration and Regent Emeritus of the Smithsonian Institution, and designated to promote excellence in the management of cultural and scientific not-for-profit organizations. Awards are for persons from within and outside the Institution (estimated expenditures of \$26,000 in FY 1984 and \$25,000 in FY 1985).

Allotments also are provided for salary and support costs for the Director of OSSS, as well as for a staff member. Educational Outreach funds will support OSSS's eighth symposium on the Orwellian Year (\$40,000).

OESE's summer intern program, now in its ninth year, gives 26 graduating high school students an opportunity to participate in a learning-service program in the Smithsonian museums. Also supported by unrestricted Trust funds is a Career Awareness Program for the District of Columbia Public Schools which is designed to introduce minority young people to career opportunities at the Smithsonian (estimated expenditures of both programs are \$84,000 in FY 1984 and \$95,000 in FY 1985).

Funds also are used to support the Cooperative and Collaborative Education Programs, both administered by OFG. The Cooperative Education Program supports the graduate and undergraduate students on study related work appointments (estimated expenditures of \$33,000 in FY 1984 and \$40,000 in FY 1985). The Collaborative Education Program covers the stipends for minority internships and faculty fellowships (estimated support of \$75,000 in FY 1984 and \$80,000 in FY 1985).

An anthropology curriculum kit, supported by a variety of unrestricted funds, was developed by OESE in cooperation with the Smithsonian's Department of Anthropology and the Smithsonian Institution Press. During the 1983/84 school year, it will be tested in 800 classrooms in Alaska and other parts of the United States, and at the same time OESE will begin to look for corporate funding to support the production of an entire series of such curriculum packets for elementary and secondary schools.

A new publishing project--to produce a periodical designed to share, free of charge, the Smithsonian's research and collections with young adolescents in schools across the nation--is being undertaken jointly by OESE and the Office of Public Affairs. This project is seeking support in FY 1983 and FY 1984 from Smithsonian Educational Outreach funds in the amount of \$35,000. Subsequently, approximately \$50,000 a year in foundation or corporate funding will be needed to enable the continuation of this periodical.

Restricted Funds - 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 administered by the Office of Fellowships and Grants, supports awards and research on fauna from outside the United States (estimated expenditures of \$15,000 in FY 1984 and in FY 1985) and other funds are used to support fellowships for the study of the history of costumes in America (estimated expenditures of \$13,000 in FY 1984 and \$14,000 in FY 1985).

Foundation support for the Office of Smithsonian Symposia and Seminars includes: developing joint cultural exchanges with Venezuelan nationals on the occasion of the 200th anniversary of the birth of Simon Bolivar and a joint symposium on Alexander von Humbolt; lecturing at a symposium on Charles Darwin in Caracas and representing the Smithsonian at meetings and study sessions in Washington, D. C. and elsewhere in the United States. OSSS is projecting to receive various gifts and grants in FY 1983 and FY 1984 for partial support of the eighth international symposium scheduled for December 1983, and also is anticipating additional gifts and grants for the ninth international symposium scheduled for FY 1985.

Since 1979, a foundation-supported program called "Exploring the Smithsonian" has been coordinated by OESE for the District of Columbia Public Schools. The program provides bus transportation to bring public junior high school students to 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. With the support of a \$31,000 grant from the Morris and Gwendolyn Cafritz Foundation, more than 3,500 students participated in "Exploring the Smithsonian" during the 1982/83 school year. Funding in the amount of \$36,000 has been received from the Cafritz Foundation to continue the program in FY 1984.

In FY 1980, a cooperative effort between the OESE and the Children's Hospital National Medical Center was begun with support from the Smithsonian's Educational Outreach fund. The purpose of this project is to develop national outreach materials (in the form of activity packets based on the Smithsonian collections) for hospitalized children between the ages of five and 18. Corporate funding in the amount of \$51,000 is now being sought to enable completion of this project in FY 1984.

COLLECTIONS MANAGEMENT/INVENTORY PROGRAM

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | - | 801 | - | - | - | - | - | - | - | - |
| FY 1984 Estimate | - | 827 | - | - | - | - | - | - | - | - |
| FY 1985 Estimate | - | 827 | - | - | - | - | - | - | - | - |

*FTP = Full-time permanent positions

ABSTRACT - In June 1983, the Institution completed the first inventory of its collections. The inventory was conducted under a policy established by the Smithsonian in 1978 as part of a collections management program designed to ascertain the full extent of the Institution's holdings and to assure continuing full control, by the maintenance of comprehensive records of those holdings. For the inventory, each museum established schedules, procedures and information requirements appropriate to the size and nature of its collections. Because of the comparatively smaller numbers of objects and specimens held, most of the museums (National Museum of African Art, Freer Gallery of Art, Hirshhorn Museum and Sculpture Garden, National Portrait Gallery, National Museum of American Art, National Air and Space Museum, and National Zoological Park) were able to complete their inventories within the five-year period using only their base resources. Additional funding, made available through appropriations beginning in FY 1979, was used each year to supplement base resources of the National Museum of Natural History/Museum of Man, National Museum of American History and Cooper-Hewitt Museum to assist those museums in addressing special inventory problems. The National Museum of Natural History/Museum of Man, with more than 81 million specimens, and the National Museum of American History with approximately 16 million diverse objects, required additional resources to manage the enormously large volumes of materials to be inventoried. The Cooper-Hewitt Museum, whose collections had not been inventoried prior to their transfer to the Institution, required extra assistance to create an accurate and comprehensive current record of its collections. This record was used as a basis for comparison with old and incomplete documentation which accompanied the transfer. No program increase is requested for FY 1985.

PROGRAM - The results of this initial baseline inventory are shown in the following table. The figure for the National Museum of Natural History/Museum of Man reflects the number of inventory records created during the process. Because of the size of its collections, this Museum conducted its inventory at three levels: specimen level, covering individual specimens of outstanding scientific merit and/or high intrinsic value; the batch level, covering medium-size groups of related specimens; and the collection level, consisting of large assemblages of related materials. In the last two instances, the number of specimens covered by each inventory record was estimated following careful sampling of each group of materials. Combining the specimen level count with the batch and collection level estimates, the total collection of the National Museum of Natural History/Museum of Man numbers approximately 81 million items.

Results of Initial Baseline Inventory

| | |
|--|------------|
| National Museum of African Art | 7,410 |
| Cooper-Hewitt Museum | 165,536 |
| Freer Gallery of Art | 26,049 |
| Hirshhorn Museum and Sculpture Garden | 7,489 |
| National Air and Space Museum | 27,988 |
| National Museum of American Art | 30,587 |
| National Museum of American History | 15,723,070 |
| National Museum of Natural History/ Museum of Man | 2,063,739 |
| National Portrait Gallery | 10,962 |
| National Zoological Park | 2,850 |

The full benefit of the inventory data can be realized only after it has been used to correct and improve earlier data accumulated as the collections were acquired. During the course of the inventory, those museums having smaller collections (from about 3,000 to 30,000 items) were able to conduct a "reconciliation" process which involved matching inventory records with pre-existing records identifying discrepancies between the two sets of documents. Efforts then were initiated to search out objects or records that appeared to be missing or misplaced. As discrepancies are resolved, inventory and catalogue records are adjusted and brought into alignment.

The existing base of \$827,000 will be used in FY 1985 to enable selected museums to continue the processes of reconciliation, refinement, and maintenance of inventory data. This amount will be divided initially among the museums as follows: National Museum of Natural History/Museum of Man, \$409,000; National Museum of American History, \$285,000; and Cooper-Hewitt Museum, \$73,000. Because inventory information has been computerized, the remainder of the amount, \$60,000, will be used by the Office of Information Resource Management to provide automated data processing services and support for these activities. This distribution of Collections Management/Inventory Program funds is identical to that requested and planned for FY 1984; however, it is possible that the internal allocations may change somewhat during FY 1985 as each bureau progresses with its efforts.

Reconciliation plans of the National Museum of Natural History/Museum of Man will entail reviews of selected accession records; review of catalogue records for which the inventory covered all entries, thus making it possible to discover and resolve gaps in catalogue numbers and inventory data; and review of type specimen catalogues in certain departments. In the area of refinement of inventory data, the Museum will undertake specimen level inventories of collections inventoried previously at the batch or collection level. Examples of such collections include lepidoptera, type specimens in the Department of Entomology, cacti and bamboo specimens in the Department of Botany, and bird skeletons in the Division of Birds. Some of this effort is associated with inventory data required in conjunction with the move of collections to the Museum Support Center. Finally, the Museum will devote some of the requested resources to the enhancement of inventory data for collections management purposes by making the data more precise and improving its value for information retrieval purposes.

Similarly, the National Museum of American History has developed plans to match its inventory records with selected data from accession files, accession books, and catalogue books and cards which contain information needed for the Museum's use in control of objects. Records which have been dispersed in past years among museum divisions will be assembled, and pertinent data from those records will be prepared for computer entry to facilitate matching with related inventory files. Records also will be searched for key information for objects which may have become separated from their original numbers, or which have been subjected to changes in nomenclature, over the passage of time. Refinement activities will focus primarily on the very large National Philatelic and Numismatics Collections in which extensive reorganization of holdings is taking place, and on collections stored at Silver Hill which were not all available individually for review during the inventory cycle because of space limitations. The Museum also has developed improved systems for effective registrarial control for maintenance of collections information and will apply a part of the funds requested to implement those systems.

To continue its reconciliation, the Cooper-Hewitt Museum must develop, through various photographic and computerized procedures, suitable working copies of the original and often fragile catalogues and other records which accompanied the transfer of collections to the Institution. Conversion of this original data to new formats will facilitate matching of all available collections data.

MAJOR EXHIBITION PROGRAM

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | - | 841 | - | - | - | - | - | - | - | - |
| FY 1984 Estimate | - | 885 | - | - | - | - | - | - | - | - |
| FY 1985 Estimate | - | 360 | - | - | - | - | - | - | - | - |

*FTP = Full-time permanent positions

ABSTRACT - The Major Exhibition Program provides centralized support for important Institutional exhibitions. For FY 1985, a total of \$360,000 is sought for two such exhibitions: (1) initial funding of \$60,000 to begin preparation of an innovative conceptual venture entitled "MANtransFORMS," highlighting the individual creative processes and products of some of the world's finest designers, to open in FY 1986 at the Cooper-Hewitt Museum; and (2) a sum of \$300,000 to mount and open in the Evans Hall of the National Museum of Natural History/Museum of Man, "Aditi"--a major display of traditional arts of India, including the participation of craftsmen and artisans whose work has helped preserve the rich heritage of the Subcontinent. A sum of \$525,000, will continue to be allocated in support of the National Museum of American History's ten-year exhibit reinstallation effort, and will be reflected in that Museum's base. No program increase is sought for FY 1985.

PROGRAM - The Institution's museums have a crucial need for a long-term program which selectively can augment available base funding to produce large, important and temporary exhibitions fashioned to attract the imagination and excitement of the visiting public. Facilities such as the Evans Hall in the National Museum of Natural History/Museum of Man and the forthcoming International Gallery in the Quadrangle give the Institution the ability to present such shows of international importance in the Nation's Capital as "The Archeology of Israel." Careful planning of these important shows is made possible by funds provided by the Major Exhibition Program.

The Major Exhibition Program has had appropriations of \$750,000 in FY 1981, \$840,000 in FY 1982 and FY 1983, and an expected \$885,000 in FY 1984. With these funds, two major exhibitions together with accompanying catalogues have been produced: (1) "Celebration," the first comprehensive display of the Institution's folklife objects as drawn from nine Smithsonian museums and occupying all of the exhibition spaces at the Renwick Gallery; and (2) "George Washington, A Figure Upon the Stage," the first major retrospective exhibition of our first President held anywhere in the world during this century, which opened at the National Museum of American History (NMAH) on the 250th anniversary of his birth. In addition, the NMAH made major progress toward designing and preparing for installation of the first in its "Life in America" exhibition series, which will survey American social history from the 17th through 20th centuries, and has made significant progress in FY 1983 toward the important task of improving visitor orientation displays in its grand concourses and rotundas on the first and second floors. Further, "The Archeology of Israel" exhibition of Middle Eastern archeology will open in FY 1984, and significant progress has been made toward the planning of "Aditi" in FY 1985.

For FY 1985, the base resources of \$300,000 will be used to install and open the "Aditi" exhibition in the Evans Hall Gallery of the National Museum of Natural History/Museum of Man in June 1985. In India, the stages of the human life cycle inspire enormous activity in the traditional arts. These arts, because of their resilience and beauty, are implanted deeply in Indian culture and survive today as they have for centuries. "Aditi," the Hindi word denoting creative power--abundant, joyful, and unbroken, which sustains the universe--is an exhibition which will illuminate the ideals, values, and experiences which together provide a coherent understanding of the many cultures and subcultures of the Subcontinent through India's crafts, music and rituals.

"Aditi" will include 1,500 objects and present 40 craftsmen and performing artists. The visitor to "Aditi" will proceed through 14 sections, each concerned with a different aspect of the life cycle: from birth, coming of age, courtship, marriage, and death, to a child's preparation for becoming a full member in the cultural life of the community. At each juncture, the exhibition literally will be brought to life by traditional artists--dancers, bardic singers, musicians, and puppeteers; toymakers, painters and weavers; and the jugglers, magicians and acrobats of India--making it far more than a handsome display of interesting objects. As mounted in New Delhi (1978) and in London (1982), "Aditi" can stand as a model for dynamic exhibitions, joining objects, artisans and a compelling theme in the presentation of folk traditions.

Under the supervision and with the logistical, design, and production management of the National Museum of Natural History/Museum of Man, the Smithsonian Office of Folklife Programs, and the Indo-United States Subcommittee on Education and Culture, the exhibition is being developed for the United States by the Indian designer and authority on Indian traditional culture, Rajeev Sethi, who directed the project at its New Delhi and London showings. He is consulting with several of America's leading experts on Indian culture concerning the installation of the exhibition. In conjunction with the exhibition, several Smithsonian bureaus are planning related activities: an India program at the 1985 Smithsonian Folklife Festival; tours to craft-making areas of India by the Smithsonian Associates; a catalogue by the Smithsonian Institution Press; ethnographic film programs; and scholarly seminars. The exhibition and its associated activities at the Smithsonian will mark the opening period of a year-long "Festival of India," a series of cultural events in cities across the United States which is being coordinated by the Indo-United States Subcommittee on Education and Culture. The Subcommittee was established by the Secretary of State in 1974 to encourage cultural exchange between the United States and India.

Although the major portion of the expenses of assembling and mounting this exhibition at the Smithsonian will occur in FY 1985, certain preliminary costs totaling \$60,000 are anticipated in FY 1984. For FY 1985, a further \$300,000 will be used for the following purposes: completion of design (\$25,000); space preparation (\$85,000); production of exhibit cases, labels and brackets (\$93,000); production of an audio-visual presentation (\$15,000); conservation provisions (\$10,000); supplies and materials (\$5,000); and installation expenses (\$67,000). Work will be accomplished by temporary employees or through contract, whichever is less expensive and most suitable to the task.

A final \$60,000 in base resources, rounding out the FY 1985 Program, will support advance planning for the Program's major FY 1986 project--"MANtransFORMS," a display of the products and processes of creative design under the direction of the Smithsonian's Cooper-Hewitt Museum. A number of professional designers of international stature will be invited to produce original contributions. This reprise of the Cooper-Hewitt's 1976 opening exhibition, which was hailed as one of the most innovative exhibitions ever produced in this country, will represent a significant and unifying account of the countless ways in which the design of man-made objects and spaces influence and shape daily life in all human culture.

MUSEUM SUPPORT CENTER

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|--------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 36 | 6,709 | - | - | - | 100 | - | - | - | - |
| FY 1984 Estimate | 116 | 8,456 | - | - | - | 650 | - | - | - | - |
| FY 1985 Estimate | 143 | 12,986 | - | - | - | - | - | - | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

| | |
|---|--------------|
| <u>Museum Support Center Operations</u> | |
| Administrative and Maintenance..... | 149 |
| National Museum of American History.. | 108 |
| Conservation Analytical Laboratory... | 377 |
| Smithsonian Institution Libraries.... | 47 |
| Printing and Photographic Services... | 20 |
| Protection Services..... | 224 |
| Subtotal..... | 925 |
| | |
| <u>Museum Support Center Equipment.....</u> | <u>3,605</u> |
| | |
| Total..... | 4,530 |

ABSTRACT - During FY 1984 and FY 1985, a majority of the equipment for the Museum Support Center (MSC) will be acquired and installed and the movement of collections will be well under way. Since FY 1981, the Institution has been preparing for the occupancy of the Museum Support Center by developing specifications for the equipping of the Center; and by beginning to implement the Conservation Analytical Laboratory's new Conservation Training Program and prepare for the location of a branch of the Smithsonian Institution Libraries at the Center. Beginning in FY 1983, with initial staff and associated support funds appropriated by the Congress, the Institution began the task of providing for program direction of the Center, and for security and buildings and grounds maintenance.

For FY 1985, \$4,530,000 is requested for additional operational staffing (27 positions and \$925,000) and an increment (\$3,605,000) to enable the Institution to complete the acquisition of storage equipment necessary for the initial move to the Support Center.

PROGRAM - The Museum Support Center provides a total of 251,000 net assignable square feet of which 146,000 will be used for storage of museum collections and 105,000 will be assigned for laboratory, work area, conservation training and service purposes. Many individual bureaus and units of the Institution will be involved in the operation and use of the Center.

The Institution has provided oversight to the General Services Administration's planning and contracting activities for the collections storage equipment required by the National Museum of Natural History/Museum of Man, the National Museum of American History, and other museums and galleries. The storage system envisioned for the collections of the museums will permit efficient, high density storage on three eight-foot high storage levels, similar to multi-story library stacks. These systems use fixed self-supporting metal racks and cabinets that can hold a variety of cases, shelves and drawers as needed to meet the specific requirements of each of the collections. Each rack will hold storage compartments with various sized drawers or shelves or other components as are appropriate for the collections being stored. The installation of wet storage equipment will be completed in the fall of 1983. A contract award for the acquisition and installation of dry storage equipment is anticipated in September 1983.

The movement of collections from the National Museum of Natural History/Museum of Man and the National Museum of American History to the Museum Support Center is a process which will take approximately three years. The magnitude of this transfer of collections is unprecedented in the museum community in terms of numbers of items to be moved, the distance involved, the variety of materials, and the differing characteristics of the objects. The National Museum of Natural History/Museum of Man alone will send millions of objects and specimens to the Center in its move. The Institution has solicited advice from moving specialists and museological sources regarding the most effective and safest methods for transporting the collections. There appears to be no single acceptable method for moving this wide variety of materials; rather, specific methods of transfer must be keyed to the type of collections involved. Bearing in mind the aforementioned characteristics, a detailed plan and a scheduled sequence of events for accomplishing the move has been developed. With funds appropriated in FY 1983, initial supplies of moving materials have been acquired along with special vans to assure direct Smithsonian control over the movement of the more sensitive collections. Temporary personnel have been hired with these funds to help prepare collections for the move. The first collection scheduled to be relocated to the Museum Support Center will be specimens preserved in liquid from the Smithsonian Oceanographic Sorting Center which currently occupies leased space in the Washington Navy Yard. The request for FY 1985 maintains the FY 1984 level of funding for move costs.

A total of \$772,000 is required to pay for electricity for lighting, ventilating and air conditioning and for fuel oil or gas for heating. The Center is equipped with dual-fired boilers which generate steam to heat the building and can use either fuel oil or gas depending on the availability and cost of each. Electricity will be used for ventilating and air conditioning the building in addition to providing power for lights, chillers, pumps and scientific and office equipment. In the estimates for both electricity and fuel oil or gas, the number of heating or cooling degree days in the Washington, D.C. area was factored with the capacity of the equipment in use and multiplied by the projected cost of the utility for FY 1985. As with other Smithsonian buildings, a computerized power management system which minimizes costly peak demand rates is installed in the Museum Support Center. This request represents no increase over the FY 1984 base for utilities costs at the Museum Support Center.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, \$4,530,000 is requested for additional operational staffing (27 positions and \$925,000) and a further increment (\$3,605,000) to enable the Smithsonian to complete the acquisition of storage equipment necessary for the initial move to the Center.

Museum Support Center Administration and Maintenance (4 positions and \$149,000) - The Office of the Director of the MSC oversees and administers the Automated Data Processing Center used for registrarial and collections management activities and for research and informational purposes required by scientific program occupants such as the Conservation Analytical Laboratory. The Office enforces the procedures established for MSC program operations, coordinates the activities of program units using the building and its facilities, and supervises facilities management operations. To meet its responsibilities, the Office requires a staff of six positions, five of which are included in the FY 1984 budget request. These include the position of director, one collections coordinator, one data manager, one data clerk, and one administrative services assistant. For FY 1985, an additional position for an ADP specialist is required. This specialist is needed to maintain the automated data system to be used for inventory control and information management related to the collections stored in the MSC and for scientific applications required by occupants of the building.

The Office of the Facilities Manager for the Museum Support Center is responsible for providing shipping and receiving services and performance of janitorial and labor functions for cleaning and maintaining the laboratory, collections processing and storage areas of the Center. The MSC has been designed to provide a secure, clean, stable environment for storage of collections, for research on the collections and for conservation work. Cleanliness of the facility is a basic requirement of the building's successful operation, and particular attention will have to be given to this factor over the period of the next several years as massive numbers of collections are moved into the building. Total staffing requirements call for 32 positions to provide janitorial and labor services and to oversee and administer the flow of materials into and out of the Center. In FY 1984, this Office requested 29 positions to provide these essential services. For FY 1985, an additional three positions are requested to complete the staffing, since by that time all laboratory and storage areas will be in use. The staff will continue in the future to meet the facilities management responsibilities of the Center.

National Museum of American History Operations (1 position and \$108,000) - The initial move of collections from the National Museum of American History to the MSC will require that a large amount of preparatory work be done on the collections being relocated. One conservator and funding for professional contractual services have been requested in the FY 1984 budget. Preparatory work involves final determination of collections and objects to be moved to the Center and involves examination, packing, transfer, unpacking and re-housing the collections as well as recording of inventory and registrarial information on the objects moved. This entire process must be given constant attention and must be done under careful supervision by trained personnel. For FY 1985, the National Museum of American History requests a position for a registration technician to oversee the movement of objects during the period of the initial move and to control the flow of historical objects in and out of the Museum Support Center in future years. For FY 1985, the Museum also requests \$75,000 for five temporary museum technicians to assist with the heavy volume of work associated with the initial move.

Conservation Analytical Laboratory Operations (10 positions and \$377,000) - For the FY 1985 an increase of 10 positions and \$377,000 is requested. These positions will augment the present base of 18 positions. For the conservation and analysis functions in FY 1985, two conservators and two conservation scientists are needed to continue to analyze and treat the large number of items in Smithsonian collections which require conservation and restoration, and to continue acquisition and sharing of conservation data with other museums and with research and conservation organizations in the United States and abroad. Senior conservation staff have the expertise needed to perform independent conservation treatment of objects of various types and to supervise other staff conservators. Senior conservators also will devote some of their time to demonstrating their specialities to students in the training program. The junior conservators requested in FY 1985 will perform conservation treatments under supervision and are needed to assist with the heavy conservation workload anticipated. The two conservation scientists will perform the large number of analyses needed before treatment can occur.

Six positions are required for the Conservation Training Program which will enroll its first class during FY 1984. Each student will receive instruction, supervision, guidance and advice while working "hands-on" in an active laboratory situation with both practice materials and objects from museum collections. Two conservators (fabrics and ceramics) will instruct interns in the use of specialized equipment, treatment methods and alternatives in dealing with specific problems and will serve as intermediaries between interns and museum curators who have the ultimate responsibility for the collections being treated. In addition, several support staff will be required for the training program and associated conservation information activities. An equipment coordinator will schedule, assemble, maintain and assure the availability of scientific and audiovisual equipment needed for instructional purposes. Other support staff include a secretary for the director of training, a conservation aid to assist in obtaining and cataloguing reprints for the information function and a data entry clerk for records keeping related to treatments and training activities.

Smithsonian Institution Libraries Operations (2 positions and \$47,000) - Funds have been provided to support a librarian for the MSC Branch Library which will serve the research needs for the Conservation Analytical Laboratory (CAL), the National Museum of Natural History/Museum of Man and the National Museum of American History. This branch library has been established and will be merged with the existing CAL Branch Library when CAL moves to the MSC in the fall of 1983. The Conservation Analytical Laboratory has become an international center for museum conservation, research and information, and the Smithsonian Institution Libraries is needed to support this growing function. The branch library at MSC is one of five conservation libraries in the world and the only one in this country which performs a conservation reference service. A dramatic increase in service to persons and organizations outside the Smithsonian has developed over the past several years. In an average month, 24 advanced reference inquiries, some of which require a whole day's research, are conducted for outside users. Between 20 and 40 requests for interlibrary loans are received monthly. The MSC Branch Library also will provide bibliographic support to the conservation students who will be studying in the Conservation Training Program. Additional staff support will be required to maintain a full range of library services for both research and educational purposes. An increase of two library technicians will allow the MSC Branch Library to meet its operational responsibilities as full operation of the MSC gets under way in 1985.

Office of Printing and Photographic Services Operations (1 position and \$20,000) - The Office of Printing and Photographic Services provides photographic support for inventory control, documentation of conservation treatments and instructional needs of the Conservation Training Program. By FY 1985, the demand for photographic services will exceed the capability of the one photographer requested in FY 1984. The Department of Anthropology, which will be moving a large portion of its collection to the Center, needs to photograph high value and delicate items in the archaeology and ethnology collections. These objects number a quarter of a million items. Further, museum departments utilizing high bay storage will photograph collections to be stored there so researchers can identify items to be studied without moving or disturbing objects unnecessarily. The one additional photographer position requested for FY 1985 will be necessary to meet the heavy photographic workload, which includes taking photographs and developing and printing them in the photographic laboratory.

Office of Protection Services Operations (9 positions and \$224,000) - The Office of Protection Services (OPS) provides internal and external security for the Museum Support Center on a 24-hour-a-day year-round basis. OPS also provides health services for personnel at both the MSC and the Silver Hill Facility. A carefully coordinated protection system, combining staffed guard posts, roving canine teams and computerized electronic surveillance devices has been developed to achieve the high level of protection required for the Center which will house a substantial percentage of irreplaceable National Collections. The MSC will be in full operation in FY 1985, and a total protection force of 42 full-time positions is required to accomplish this mission. These positions include 29 guards and four supervisors to staff the guard posts throughout the building, five canine teams for perimeter security, one ADP specialist to oversee operations and prepare and maintain control programs for the central electronic security console and its appurtenances, two alarm technicians to maintain security devices throughout the building and one nurse to staff the health station. In FY 1983, 16 of the required positions were made available and 17 additional positions have been included in the Institution's FY 1984 budget request. To complete this essential staffing structure, the remaining nine positions are sought in FY 1985. Specifically, these include six guards, two canine officers, and one alarms technician.

The guards and canine officers requested will fill the roster of personnel needed to staff 14 posts inside and outside the building throughout the day, at night and on weekends. The lengthy perimeter of the MSC facility, which does not have electronic fence protection, will be continuously patrolled by canine teams during the night and over weekends. Without the additional two canine teams, it will not be possible to conduct these patrols. On weekends, security gates to the MSC grounds will be kept locked and canine teams will have the responsibility for responding to requests for entry by authorized personnel. The electronic security system contains hundreds of devices including motion and audio detectors, electronic locks, closed circuit television, card-reading devices and intercoms. A second alarms technician is required to assure that these devices are operating properly at all times and that the integrity of the system is not compromised by failure of any of the devices. This system has been designated as a prototype which will be expanded during the next several years to all Smithsonian museums in the Washington, D.C. metropolitan area.

Storage Equipment (\$3,605,000) - A level of \$7.5 million is requested for collections storage equipment in FY 1985. This represents a net increase of \$3.605 million over the FY 1984 level and accelerates the planned acquisition of storage equipment necessary for the proper functioning of the Museum Support Center.

With funds appropriated in FY 1981, the Institution is acquiring three-tiered open shelf storage equipment for the "wet" storage pod of the Museum Support Center. This storage equipment will accommodate specimens preserved in alcohol from the Smithsonian Oceanographic Sorting Center and portions of the Departments of Vertebrate and Invertebrate Zoology of the National Museum of Natural History/Museum of Man. Bids for this first phase of storage equipment were opened on July 9, 1982, and the low bid was within funding availability. The Institution has developed plans and performance specifications for the phased acquisition of the three-tiered self-supporting racking system to be used in Pods 1, 2 and 4 of the Center. Bids for this equipment have been requested and are due on September 22, 1983. This storage system will contain storage compartments with various sized drawers or shelves, or other storage components appropriate to the many types of collections to be placed in the Center. For FY 1985, the Institution is requesting a level of \$7.5 million to complete acquisition of the storage equipment necessary for the initial move to the Museum Support Center. Approval of this request will permit substantial savings resulting from economies of scale through procurement of larger segments of the storage equipment and reduced design, management and inflation costs.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - An allotment of \$750,000 was provided in FY 1982 to purchase special laboratory equipment for the Conservation Analytical Laboratory. Approximately \$100,000 will be spent in FY 1983 with the balance of \$650,000 to be committed in FY 1984.

The following chart summarizes the overall Museum Support Center-related costs from FY 1982-FY 1989.

Museum Support Center - Related Costs

| | FY 1982 | FY 1983 | FY 1984 | Proposed Change 1984-1985 | FY 1985 | FY 1986 | FY 1987 | FY 1988 | FY 1989 |
|---|------------------|------------------|------------------|---------------------------------|-------------------|------------------|------------------|------------------|------------------|
| | <u>Approp.</u> | <u>Approp.</u> | <u>Request</u> | | <u>Estimate</u> | <u>Estimate</u> | <u>Estimate</u> | <u>Estimate</u> | <u>Estimate</u> |
| | <u>(Pos.) \$</u> | <u>(Pos.) \$</u> | <u>(Pos.) \$</u> | <u>(Pos.) \$</u> | <u>(Pos.) \$</u> | <u>(Pos.) \$</u> | <u>(Pos.) \$</u> | <u>(Pos.) \$</u> | <u>(Pos.) \$</u> |
| Operating and Program Personnel and Support | 8 187 | 36 1,019 | 116 3,039 | 27 +925 | 143 3,964 | 148 4,188 | 151 4,223 | 152 4,423 | 154 4,506 |
| Moving Expense | - - | - 1,100 | - 750 | - - | - 750 | - - | - - | - - | - - |
| Utilities | - - | - 772 | - 772 | - - | - 772 | - 772 | - 772 | - 772 | - 772 |
| Equipment /1 | - 4,315 | - 3,820 | - 3,895 | - +3,605 | - 7,500 | - 1,200 | - 1,200 | - 1,200 | - 1,200 |
| TOTAL | 8 4,502 | 36 6,711 | 116 8,456 | 27 4,530 | 143 12,986 | 148 6,160 | 151 6,195 | 152 6,395 | 154 6,478 |

/1 An additional \$750,000 has been provided from unrestricted Trust funds for Museum Support Center equipment; \$1,750,000 in Trust funds resulting from proceeds from the sale of the Belmont Conference Center also have been obligated to GSA for construction.

QUADRANGLE OPERATIONS

Analysis of FY 1985 Federal Increase

| | |
|---|-------|
| Sackler Gallery of Art..... | 451 |
| National Museum of African Art..... | 210 |
| International Conference Center..... | 100 |
| Smithsonian Traveling Exhibition Service. | 45 |
| Smithsonian Institution Libraries..... | 303 |
| | 1,109 |

ABSTRACT - The Quadrangle will be a 368,000 square-foot building situated on a four-acre site adjacent to the Smithsonian Castle, the historic Arts and Industries Building, and the Freer Gallery. Located on one of the most prominent grounds in Washington, D.C., a short distance from Capitol Hill, it will supplement the cluster of Smithsonian museums already on the Mall. Ground for the structures was broken in June 1983, and completion of construction is anticipated in January 1986. For United States and many international visitors, the Quadrangle will serve as an education and research facility elucidating the cultures represented in the Center for African, Near Eastern, and Asian Cultures, while for foreign visitors and representatives from both regional and national cultures therein represented, the Quadrangle is intended as a "home away from home." Seven Smithsonian bureaus and programs will constitute this Center in the Quadrangle: the Sackler Gallery of Art, the National Museum of African Art, the Islamic Studies Center, the International Conference Center, the Smithsonian Institution Traveling Exhibition Service, the Resident Associate Program, and the National Associate Program.

For FY 1985, an increase of 21 positions and \$1,109,000 is requested for Quadrangle operations as detailed in the explanation of program increase which follows.

PROGRAM - The Quadrangle at the Smithsonian Institution will be the home for a complex of activities dedicated to improved understanding of the many cultures extending from Africa, through the Middle East and Asia, to the Philippines and the South Pacific. This vast expanse contains well over two-thirds of the world's population, historic centers of all the great religions, unmatched repositories of rich art and artifacts, all of which demonstrate the immense inventiveness, creativity, initiative, and ingenuity of their peoples.

Despite the considerable influence of these cultures on the development of Western thought and achievements, they remain enigmas to large segments of American and European populations. Advanced technology and communications have helped to destroy the sense of remoteness but not of strangeness. The need to focus more attention on these lands is self-evident and uncontested. Accordingly, the emerging Center for African, Near Eastern, and Asian Cultures in the Smithsonian Quadrangle has a single objective: to provide the facilities, programs and collections which will enhance visitors' appreciation and understanding of these diverse and influential cultures and encourage their preservation through national and international dialogue.

Activities in the Quadrangle also include those dedicated to education and outreach. In addition to contributing to meeting the overall public service responsibilities of the Quadrangle, these activities will continue to involve a wide range of programs in Washington, D.C., and elsewhere.

Seven Smithsonian bureaus and programs will constitute this Center: the Sackler Gallery of Art, the National Museum of African Art, an Islamic Studies Center, the International Conference Center, the Smithsonian Institution Traveling Exhibition Service, and the Smithsonian Resident and National Associate Programs. In carrying out their Quadrangle work, these entities, each with its own director and staff, will have the individual and combined mission to illuminate and explicate the cultures represented in the Center. They will pursue this central mission in ways appropriate to each: permanent and transient exhibitions, lectures and conferences, research and seminars, performances and films, classes, individual study and group projects.

Sackler Gallery of Art and National Museum of African Art:

As the repositories of invaluable collections from cultures throughout the areas represented in the Center, the two museums will form the foundation of the Quadrangle. Their directors are responsible for installing permanent and rotating exhibitions reflective of the cultures which each museum represents. Exhibits will be designed to foster a sense of viewer participation, enabling visitors to associate objects with the purposes of their creation. Recreated cultural environments will be authentic and exhibited objects will reflect high standards of artistic and cultural achievement. Careful design and installation will convey to viewers a sense of the character and meaning of objects by revealing as much as possible about their creators, their context, their purpose, and the cultural values they embody. Supporting these exhibitions will be a full range of supportive museum activities: research and publication; collections acquisition, management, and conservation; and education. In their work, the museums will set the tone and create the operating style for the entire Center. The museums will have the space, the collections, the research facilities and the competence and imagination to assure this central role.

Islamic Studies Center:

The Islamic Studies Center will coordinate, highlight, and give concentrated exposure and prominence to aspects of the world of Islam which are already represented, but in disparate fashion, in many of the component collections of the Institution as amassed over the last 130 years. Although many of these collections are not physically located in the Quadrangle, this Center will seek to stimulate interest in materials throughout the Institution which increase the public's awareness and appreciation of Islamic culture and heritage.

The promotion of fundamental research in the Islamic field will be this Center's principal role. Accordingly, the Center will carry out its central mission by creating new information which will allow Smithsonian collections to focus through scholarly research on four aspects of Islam: law, religion, art and architecture, and ethnology and cultural history.

Specifically, the Islamic Study Center will seek outstanding authorities in the United States and abroad to come and pursue their research in conjunction with Smithsonian historians, scientists, and curators, working whenever practicable with the collections. This conjunction of intellectual and material resources will be the key to unlocking the latent potential for improved public understanding of Islam.

The International Conference Center:

The International Conference Center will be the focus for the development and scheduling of the Institution's worldwide programs, building on the experience of the Office of International Activities. It will work closely with the Office of Smithsonian Symposia and Seminars, the Woodrow Wilson International Center for Scholars, the

Department of Anthropology, the Office of Folklife Programs and the Office of Fellowships and Grants. It also will be responsible for the issuance of an Institution-wide calendar of events related to international activities. A wide variety of meetings, to take place either in the Center or in other parts of the Institution, could be held on subjects related to exhibition efforts. These could range from archeology, art history and theory, and historic preservation to endangered species and human studies subjects. During the first year or two, global issues of conservation might be explored as a theme for linking museum exhibitions with seminars, discussions, festivals and performances. The director of the International Conference Center and its staff will seek and select resources and audiences which manifestly advance the Center's goals of cultural explication and dialogue.

While the primary purpose of the International Conference Center will be to advance Quadrangle objectives in coordination with other elements, the Center also, on occasion, will serve as a meeting place for international groups visiting Washington, D.C. under Department of State or similar auspices. Such meetings will be arranged not simply as an accommodation, but more importantly, as a means of involving important and influential persons in the activities of the Quadrangle. On these occasions, use will be made of the exhibition galleries on the upper-levels, smaller exhibitions in and adjacent to the International Center, publications and other materials.

Finally, the International Conference Center will be responsible for coordinating the presentations in the third-level exhibition hall, the International Exhibition Gallery. The Sackler Gallery of Art and the National Museum of African Art will make regular use of this facility. The Islamic Studies Center, though lacking collections of its own, may in fact attract appropriate exhibitions. In the normal course of work, the Smithsonian Institution Traveling Exhibition Service will mount shows consistent with Center objectives. The Department of Anthropology, in demonstrating the contributions of ethnography to area understanding, may find the Gallery to be useful. Experience and the imaginative planning of all elements will be the actual determining factors governing use.

Smithsonian Institution Traveling Exhibition Service, Smithsonian Resident Associate Program, and Smithsonian National Associate Program:

These activities will move their offices to the third level of the Quadrangle. From this location each will continue to plan programs as today and, in addition, will assume the new responsibility of advancing the stated objectives of the Center. Their public programs in the Quadrangle--lectures, exhibitions, classes, performances--will contribute to understanding the cultures in question. Operating from their new quarters, these activities will continue to plan and implement a wide range of outreach services conducted in Washington, D.C., and elsewhere. Exhibitions produced by the Smithsonian Institution Traveling Exhibition Service will be important components of Quadrangle programming. The Resident and National Associate Programs will be able to use the exhibitions and other educational activities of the Quadrangle as major new resources for their members. These programs will be the primary users of third-level classrooms for meetings, lectures and other activities. Similarly, the small auditorium will be available for performances.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of 21 positions and \$1,109,000 is requested for Quadrangle operations. The Sackler Gallery of Art, the National Museum of African Art, the International Conference Center, the Smithsonian Institution Traveling Exhibition Service, and the Smithsonian Institution Libraries will require increments of operating expenses as follows:

Sackler Gallery of Art (8 positions and \$451,000) - For the Sackler Gallery, an increase of \$451,000 is requested to support 8 positions; to purchase automation equipment for collections management; and for curatorial travel, exhibit design and production; and collections acquisition.

To meet the needs of the receipt, registration and conservation of the nearly 1,000 art objects in the Sackler gift, so as to begin preparing for the inaugural exhibition, its catalogue and related publications, 8 positions and \$281,000 are requested in FY 1985. The positions are a registration specialist, two conservators, a conservation specialist, an exhibit designer, an exhibit specialist, a curator and a secretary. Four of these positions are required for collections management of the objects currently stored at the Museum Support Center. These four positions will work closely with the assistant director and two members of the exhibit staff in managing the objects and preparing for their transfer into the Sackler Gallery in FY 1986. The two exhibits personnel will work initially on the inaugural exhibition with the assistant director as well as plan for traveling exhibitions and in-house exhibitions.

Major international exhibitions and acquisitions of exceptional quality expected at the Sackler Gallery require years of organization, research and negotiations. Although the assistant director will devote a great deal of time to future exhibitions, that person also must concentrate on the inaugural presentation. In addition to the assistant director, a full-time curator is needed to plan and research future shows. The assistance of a secretary is needed by the assistant director and curator.

Further funding is needed in the amounts of \$35,000 for the purchase of automated equipment for collections management and for use in research and object information, partially in preparation of the initial exhibition catalogue and labels; \$30,000 for construction of case prototypes and fees related to designing and producing exhibit cases for the inaugural exhibition; and \$5,000 for travel funds for the assistant director and other Sackler Gallery staff. An amount of \$100,000 for collections acquisition is sought in FY 1985 to build the collection for exhibitions following the inaugural installation. Many objects from the inaugural show may be loaned by FY 1988, and the Gallery must rely upon traveling exhibitions and additions to the collections for the years that follow the opening.

National Museum of African Art (7 positions and \$210,000) - As a repository of valuable collections from sub-Saharan cultures, the National Museum of African Art will form a foundation of the Quadrangle. Temporary exhibitions at the Museum will be planned at least three years in advance of openings. In addition to the Museum's collections, maximum use will be made of important objects borrowed from other museums and institutions to provide a broader coverage. Traveling exhibitions assembled by other sponsors will be used to the extent that they have artistic and cultural merit and can be installed in conformity with the central objective of the Museum.

The responsibility for accessioning art objects, storage of the collection, loan and insurance negotiation and shipping arrangements for incoming and outgoing loans is handled presently by one registrar. Heightened emphasis on proper collections inventory procedures as well as significantly increased loan exhibition activity, necessitate requesting two additional positions and \$35,000 for an assistant registrar and a clerk/typist to handle the attendant volume of work.

At present there is no ongoing program for conservation and documentation of the permanent collection and such a program is essential for the safekeeping of these invaluable items. Therefore, in FY 1985, 1 position and \$27,000 is requested for a chief conservator to establish a comprehensive program designed to protect and preserve the Museum's collections.

As the Museum prepares for expanded activities and increased public attendance in the Quadrangle, each department is undergoing evaluation to assure more efficient, effective and productive operations. Given substantially increased collection growth and development, the Museum requests 1 position and \$22,000 for a curatorial assistant to assist with the Museum's collections management responsibilities.

With increased emphasis on expanded exhibitions and accompanying research, the Museum is continuing to develop an exhibit-associated publications program. In order to assure the production of attractively designed and well written catalogues and brochures which communicate the form and substance of each exhibition to the public, 2 positions and \$44,000 are requested for a writer/editor and a graphics designer. Another aspect of such in-house graphic design capability will be the production of labels, maps and other graphics materials for exhibitions, as well as education fliers and public orientation materials.

To assist in the production of a well designed and efficiently installed series of exhibitions, the Museum is requesting 1 position and \$32,000 for the addition to the permanent staff of a professional exhibit designer. At present, this function is performed by members of the curatorial staff whose expertise should be focused more appropriately on the research, documentation and care of the collection.

In addition, \$50,000 is requested for nonsalary expenses essential for the production, installation, publication and transportation of exhibitions and collections. The expanded activity of the Museum by virtue of relocation to the Quadrangle requires adequate support costs to meet the goals of the Museum.

International Conference Center (2 positions and \$100,000) - Two positions, director and secretary, with funds to establish office functions, are requested to provide the lead-time necessary to plan and develop the programs of the International Conference Center in consultation and collaboration with the other program units in the Quadrangle as well as with other Smithsonian entities as they develop exhibition and education plans. Work will start on the master calendar and on the implementation of supplementary and supportive projects that will integrate and strengthen overall Quadrangle operations.

Smithsonian Institution Traveling Exhibition Service (3 positions and \$45,000) - Traveling exhibitions emanating from the Sackler Gallery of Art and the National Museum of African Art generally will be mounted and offered to other institutions by the Smithsonian Institution Traveling Exhibition Service (SITES), the Smithsonian unit most experienced in rendering these invaluable services. In cooperation with the museums, SITES will plan traveling exhibitions as a principal means of making the Center's programs available to as wide a national and international public as possible. These same exhibitions will be installed, as appropriate, in the Center's galleries.

The new spaces that SITES will occupy in the Quadrangle include an Introduction Gallery, a publications sales area and storage area, a reception area, a library, two meeting rooms, an education workshop area, a lounge, a vault and service areas.

Personnel needs for FY 1985 (3 positions and \$45,000) consist of: a graphics technician, who will take charge of the graphic needs of the Introduction Gallery; an educational workshop coordinator, who will schedule all events throughout the year for the educational workshop area; and a secretary who will assist with this workshop program.

Smithsonian Institution Libraries (1 position and \$303,000) - Because no other library in the Washington, D.C. area collects in the field of African Art to any great extent, and because the goal of the Quadrangle is to be a center for non-Western cultures, the African Art branch library aims at developing a collection that can support the research that the new Center will encourage. The branch will become the national library for study in this field. The present African Art branch library is inadequate, lacking most of the basic primary and secondary material that advanced scholarship requires. The acquisition of an estimated 9,000 volumes will increase the size of the collection to 15,000, which is considered the minimum needed to support research in the field.

In FY 1985, 1 permanent library technician position and \$28,000 is requested as well as operating funds necessary to purchase the additional volumes for the collections. The 9,000 volumes will be purchased over a three-year period at a total cost of \$650,000; the initial amount for FY 1985 is \$220,000. Cataloguing these volumes also will take three years at a cost of a \$160,000, of which \$55,000 is requested in FY 1985.

ADMINISTRATION

(Dollars in thousands)

| Fiscal Year | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | | | |
|------------------|------------------------------------|--------|--------------|-------|-----------------|------|------------|------|----------------------------|---|
| | FEDERAL FUNDS | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 269 | 10,525 | 165 | 6,530 | - | 246 | - | 93 | - | - |
| FY 1984 Estimate | 269 | 11,664 | 164 | 6,951 | - | 124 | - | 64 | - | - |
| FY 1985 Estimate | 276 | 12,291 | 166 | 7,732 | - | 33 | - | 53 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Base Deficiency.....103
Automation.....244
Administration.....280

ABSTRACT - The Administration activity grouping includes central management oversight and services provided by the Offices of the Secretary, Under Secretary, Assistant Secretary for Administration, General Counsel, Treasurer, Coordinator of Public Information, and the Director of Facilities Services (responsible for the Offices of Design and Construction, Plant Services and Protection Services). It also includes specialized administrative and technical offices reporting to the Assistant Secretary for Administration, which include the offices of Audits (reporting to the Under Secretary and Secretary), Contracts, Equal Opportunity, Information Resource Management, Management Analysis, Personnel Administration, Printing and Photographic Services, Programming and Budget, Supply Services, and Travel Services. Offices reporting to the Treasurer include Accounting and Financial Services, Grants and Risk Management, and Business Management. Offices reporting to the Coordinator of Public Information include Congressional Liaison, Public Affairs, and Special Events. Funding also includes the International Exchange Service and the Workers' Compensation account.

Overall, these organizational units receive both appropriated funds and nonappropriated unrestricted Trust funds for their operating support in approximate balance to the funding of the Institution. Some offices, however, such as the Contracts Office, are funded entirely with nonappropriated Trust funds reflecting the nature of their work. These organizational units provide support and services to all programs and activities of the Institution. For FY 1985, an increase of 7 positions and \$627,000 is sought to meet the following needs: \$103,000 to correct base shortages in funding of staff and visitor publications; 4 positions and \$244,000 for the operation and management of the new payroll/personnel computer system; 3 positions and \$230,000 for programmatic strengthening of the equal opportunity program; and \$50,000 for material and services required by the Office of Supply Services.

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, financial management 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. The Office of Audits, which reports to the Under Secretary and to the Audit and Review Committee of the Board of Regents, is responsible for performing all internal auditing and the external audit program of the Smithsonian. The internal audit function includes auditing Federal programs as well as Trust funded activities on a recurring basis. The Office reports the results of audit findings and makes recommendations to aid management at all levels in program administration. The external audit function involves the audit of documentation in support of claims, cost proposals and cost and pricing data arising from contracts, grants, and other financial agreements.

The Office of the General Counsel provides counseling to the Smithsonian Board of Regents, the Secretary, and to the other executive and program offices on all legal matters involved in Smithsonian administration; coordinates and oversees the conduct of litigation and other adversary proceedings to which the Institution is a party; reviews administrative claims arising out of Smithsonian operations; and generally monitors all aspects of Smithsonian operations for legal implications vis-a-vis new developments in the law. Such matters include: the fiduciary obligations and responsibilities of the various museum boards and officials in executing their duties; the conformance to Smithsonian standards of conduct by its employees; fiscal policies and procedures required for federally appropriated funds, as well as trust principles applicable to the Institution's endowment funds; employment policies and procedures, involving the civil service laws, the civil rights laws, and labor laws; national and international legal requirements, procedures, and ramifications pertinent to scientific field studies and research, and to the importation and exportation of exhibitions, art works, and cultural property; the impact on Smithsonian activities of environmental and endangered species laws; contract awards and agreements, and claims and disputes arising therefrom; collections acquisition management vis-a-vis purchases, gifts, loans, and bequests; intellectual property rights arising out of publishing, performing arts, and collections acquisition activities; and real and personal property transactions.

The Office of the Treasurer has direct responsibility for financial management. This includes the direction of financial planning, accounting, payroll, financial reporting, administration of grants and insurance, handling of bank relations, oversight of investments, and management of certain auxiliary activities. Components of the Office of the Treasurer include Accounting and Financial Services, Grants and Risk Management and various Business Management Offices, including Museum Shops, Mail Order Division, Food Services, Concessions and Parking operations.

The Office of the Coordinator of Public Information is composed of the Offices of Congressional Liaison, Public Affairs and Special Events. These offices are responsible for providing information about the Smithsonian and its programs to the general public and the Congress, for developing and overseeing legislation pertaining to the Institution, and for coordinating special events associated with exhibit openings, lectures and other presentations. The Office of Public Affairs is responsible for acquainting the public, via the communications media, public information programs and other means, with programs and policies. It uses news releases, the Smithsonian News Service, other feature articles, calendars of events, radio-TV public service announcements, guides, visitor brochures and other publications, and contacts with individual journalists and news conferences to inform the public. The Office also produces a monthly staff newspaper.

The Contracts Office assists in obtaining Federal grants and contracts for special programs and projects, negotiates certain specialized contracts and manages components of the Trust personnel benefits program.

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 under representation 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, women, and Hispanic programs; and meeting community and national outreach responsibilities through exhibits and other information on the Institution.

The Office of Information Resource Management (OIRM), established in 1982, encompasses a number of planning, management and automation functions. OIRM planning is directed toward enhancement of the information resources of the Institution--its cultural objects, scientific specimens, books and manuscripts, and its administrative information concerning people, funds and the like. Planning is based on program needs of bureaus defined by the bureaus under the technical leadership of OIRM staff. OIRM management focuses on the cost effective use of technology to support defined program needs and on the emerging area of data administration. Data administration is the management of computer databases, which are becoming larger and more complex, and must be carefully tended to ensure their useability and security. OIRM's automation functions involve technology assessment, to ensure that the Smithsonian uses the most appropriate technology from the market place; and the systems analysis, computer programming, and computer operations involved in the development and use of computer systems.

The Management Analysis Office provides a wide range of staff assistance and advisory services in support of Smithsonian administrative operations. The Office performs studies of organization, 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 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 personnel office has functional responsibility for recruitment, staffing, position classification and wage administration, performance appraisal, merit pay, and employee relations. It also provides for union-management relations, employee training and career development, employee assistance program, retirement counseling, employee benefits processing, workers' compensation, unemployment insurance processing, records and data maintenance and processing, personnel policy development, and personnel program 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 on-site photography, photography of related field work, 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 developed for submission to the Office of Management and Budget (OMB) and to the Congress, and the Office serves as liaison with both the OMB and the Congress on budgetary matters. Appropriated and nonappropriated

Trust fund budgets are administered and monitored to help assure that program needs are met, budgetary goals are achieved and that accountability is maintained. The Office participates in the development of the Five-Year Prospectus and advises management on matters pertaining to program planning and development.

The Office of Supply Services is responsible for the policy, planning and coordination of the procurement, contracting, property management and supply program. The Office procures supplies, materials, contractual services including construction, and equipment for research, curatorial, conservation, exhibit preparation, administrative and other Smithsonian activities. Programs for business with small, minority and women-owned firms are set and monitored. 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 plans itineraries and makes arrangements for travel to be accomplished efficiently and economically with particular attention to saving funds by the use of contract and discount fares. Information is gathered and made available to staff on accommodations, car rentals, and other services. In coordination with the accounting and management analysis offices, policy and procedural materials on travel are prepared for staff use.

Efforts are underway to terminate the International Exchange Service over the next year as shipments in transit are processed and users notified to cease further shipments.

Progress in Administrative Support - Major emphasis over the past year and continuing for the current and budget years includes the development of the Quadrangle project, 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 as a public responsibility. A number of specific developments merit reporting in the areas of financial and personnel management, equal opportunity, management information systems, public information and photographic services.

Portions of the new consolidated personnel/payroll computer system are now in the "testing" stage. Under this system, an integrated base of personnel/payroll data will be generated allowing for improved monitoring, reporting, and projecting of information in the areas of personnel, payroll, budget, equal opportunity and affirmative action. Efforts to increase the effectiveness and efficiency of the personnel/payroll system and to extend the principles of data base management to all areas of financial data will be pursued in FY 1984 and subsequent years. During FY 1983, the number of Accounting Service Units was increased to nine. Located in various Smithsonian facilities and linked by computer terminal to the central Accounting Office, these units expedite processing of accounting documents, thereby enabling more timely payments to vendors and better cash management.

Personnel management efforts have emphasized the requirements of the Civil Service Reform Act of 1978 for civil service employees, comparable policies and procedures for Trust employees, and equal opportunity and affirmative action for all employees and job applicants. Performance appraisal, merit pay and other systems are being monitored and improved as necessary. Policy and procedural materials are being examined, evaluated, and revised to assist Smithsonian bureaus and offices in good personnel practices. New recruitment pamphlets and fact sheets are being developed to assist

applicants. In addition to implementation of the new personnel system, it is expected that changes to the Federal retirement and health insurance programs and the requirements of the Workers' Compensation and unemployment insurance programs will require substantial personnel work in FY 1984 and FY 1985.

Equal opportunity efforts are having some success with improvements in representation of minority persons and women in professional jobs and in the upper grades. There has been steady improvement in program and facility accessibility for disabled persons. There have been greatly expanded opportunities for training and career development for minority students and scholars and there has been concerted action to develop working relationships with Washington, D.C. universities and with the historically Black colleges and universities. Under the auspices of the Office of Fellowships and Grants, many internship appointments and faculty fellowships are being made primarily from these schools. The Office of Elementary and Secondary Education's new Career Awareness program for high school students has been met with great enthusiasm by the District of Columbia Public Schools. In addition, there have been special actions to provide information, assistance, and exhibits to minority and women's groups and organizations. Goals for procurement from small and minority businesses were met.

In the area of information management, the most significant development has been the establishment of a central office to provide planning, direction, and technical support. The Institution anticipates funding central processors with Trust funds in an extension of the present computer cost center. Software acquisition will begin with funds provided by Congress in FY 1983 for a library system; a contract for this bibliographic system will be signed in FY 1983. Progress continues on the Trust fund supported development of personnel/payroll software. Comprehensive systems requirements studies, to support object collections systems software acquisitions, were completed in June 1983. Development of specifications for commercial software to support object collections management and research is well underway, and this software will be procured in FY 1984. Preliminary plans for requirements analysis for financial management have been developed; the study of requirements is to be undertaken in FY 1984. Communications systems requirements were gathered by July 1983, with the major decisions on data communications to be made by October 1983. Plans for physical communications links in older buildings were begun in FY 1983 and comprehensive plans will be established early in FY 1984 to ensure coordinated development of data processing, office automation, image, security, and voice communications systems. Training funds will be used in FY 1984 for OIRM and other SI staff involved with the bibliographic systems; for OIRM staff, once the object collections information system is selected; for communications system purposes and for OIRM and other Smithsonian staff to support requirements analysis in the financial management area.

Among public information services, the Smithsonian News Service provides the daily and weekly press with a regular package of four articles on art, history, and science subjects. Over 1,400 newspapers, with a total combined readership of 40 million persons, are using News Service articles. Readership of the monthly Calendar of Events is close to two million persons in the Washington, D.C. area. Radio and television public service announcements are helpful to prospective visitors annually. The results of a test public service announcement offering a "trip planner" by mail are being studied. More than one million copies of English and foreign language information brochures are used by visitors annually. A special guide for disabled persons has been issued and revised to include improvements in accessibility of facilities.

Major work continued during FY 1983 to convert hazardous nitrate negatives to safety film. In addition to working with the central photograph files collection, conversion work was also done on the collection of the National Anthropological Archives, Pullman Railway Collection, Cheney Collection, Juley Collection, Mechanical and Civil Engineering Collection and others. In addition, major emphasis was placed on managing the inventory photography projects for the National Museum of American History's jewelry, Numismatics and Philatelic collections. During the year, improved storage conditions were added to the office's environmental cold storage room which will further ensure the preservation of the photographic collection.

EXPLANATION OF PROGRAM INCREASE - For FY 1985, an increase of 7 positions and \$627,000 is requested for the following purposes: \$103,000 to correct base shortages in funding of staff and visitor publications; 4 positions and \$244,000 for the operation and management of the new personnel/payroll computer system; 3 positions and \$230,000 for programmatic strengthening of the equal opportunity program; and \$50,000 for material and services required by the Office of Supply Services.

Base Deficiency (\$103,000) - An amount of \$103,000 is requested to provide adequate funds for the Office of Public Affairs and the Office of Personnel Administration. The base funding available to the Office of Public Affairs (OPA) has not been sufficient to pay the salaries of on-board staff and at the same time to meet the higher costs of printing the Calendar of Events in the Washington Post, English and foreign language "Welcome" brochures and "A Guide for Disabled People." The \$58,000 requested would be applied as follows: \$24,000 for salary costs of OPA's staff of 11 persons; \$14,000 for printing the Calendar in the Washington Post; \$16,000 for "Welcome" brochures; and \$4,000 to print "A Guide for Disabled People."

To continue printing the monthly Calendar of Events in the Washington Post, \$14,000 is requested. The listing of events has proven to be an excellent means of informing a potential readership of two million about events, lectures, motion pictures, performances and exhibits. The annual cost of the monthly Calendar has almost doubled to \$50,000 during the past four years. One-fourth of the funding for this publication is provided from Trust funds in recognition that certain of the events are income-producing.

An amount of \$16,000 is requested to fund the increased cost of a sufficient quantity of "Welcome" brochures, a free publication for visitors in English and foreign language versions which describes the entire Smithsonian. A total of 1,700,000 copies is printed annually of which 300,000 are in French, Spanish, German, and Japanese. The foreign language brochures have become more accessible to visitors since signs on their availability have been placed on information desks in the individual museums. The funds currently in OPA's base for the "Welcome" brochure are \$32,000. Institution funds have been reprogrammed for the brochures each of the past several years to cover the cost of printing an adequate number of the brochures.

Further, \$4,000 is requested to print "A Guide for Disabled People" designed for the handicapped who are visiting or who plan to visit the Smithsonian. It provides information about the accessibility of the Smithsonian's museums and activities. During 1980, 10,000 copies of the brochure were printed by The President's Committee on Employment of the Handicapped. A supplementary edition of the brochure was printed during FY 1982 by OPA and reprogrammed funds are being used for a printing during FY 1983. Funding is requested to allow printing in the future without jeopardizing other program needs.

An amount of \$45,000 is required to replace funds lost through the absorption of pay raises and to allow the Office of Personnel Administration (OPERSA) to staff at the authorized level of 42 positions. Full staffing is needed to alleviate a backlog of personnel actions, to avoid a deterioration of quality and timeliness of service, and to permit work on special emphasis programs, such as equal opportunity hiring. There is also an increase in general workload occasioned by Office of Personnel Management regulatory requirements in the areas of performance appraisal, selection and appointment of new employees, and by grievances and adverse actions.

Automation (4 positions and \$244,000) - Of this amount, 4 positions (2 professional and 2 clerical) and \$94,000 are required in support of the new personnel/payroll system under development. OPERSA will be the primary source for all employee data required to maintain the single data base to serve all personnel management, payroll, equal opportunity, budget formulation and monitoring, and reporting purposes. Constant attention will be required to adjust the system to meet new regulatory and other requirements affecting civil service and Trust employee selection, pay, benefits, awards, and disciplinary actions. Staff are needed to develop policies and procedures to allow the new computer system to function effectively as part of the overall personnel system including its use by the bureaus and offices of the Institution. Related to these requirements is a request for \$100,000 for the purchase of computer terminals for the input and retrieval of data and for computer time used in the maintenance of the personnel data base and the preparation of personnel actions and reports.

A further amount of \$50,000 is requested to purchase an automated filing system to provide quicker and more convenient access to official personnel files and to safeguard those records. These funds also will be used to renovate and equip present office space to use the limited available square footage most effectively.

Administration - Equal Opportunity (3 positions and \$230,000) - Through the career awareness, internship, cooperative education, and visiting faculty fellowship programs (all supported primarily with Trust funds budgeted centrally) which have a major focus on minority students and schools, the Smithsonian is attempting to encourage young persons as well as more advanced scholars to consider careers that will meet museum, research, and related needs. Over time, these activities also may help to increase the present unacceptably low number of women and minority persons in mid- and upper-level grades at the Institution. Additional measures are needed, however, to encourage corrective action. Three positions and \$150,000 are requested for this purpose. In addition, an amount of \$20,000 would be used to fund two Smithsonian scholarships for women or minority students in scientific, curatorial, or administrative fields where the Institution's work force is under-represented. Students would work in the appropriate offices during summer months to gain practical experience. A further amount of \$60,000 would provide for several upward mobility development positions for Smithsonian employees interested in and willing to work toward professional or administrative positions. These funds would reimburse participating offices for salaries and benefits costs and pay for training.

Administrative - Supply Management (\$50,000) - Certain supply items and service contracts are provided centrally for convenience and to allow the saving associated with large-quantity purchases. These items and services include copy paper, ink, and chemicals forms; and office machine repairs. An amount of \$22,000 is required to meet Institution needs for these items. A further \$28,000 is needed to support office operations and allow the procurement, contracting, property management, and supply staffs to meet higher and more technical workloads with a reduced staffing level under workyear controls. This amount includes office automation costs, overtime, training and temporary help.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are provided by allotments. Funding of these centralized services from both Federal and nonappropriated sources produces a ratio of Federal and Trust fund administrative support approximately in proportion to the operating program expenditures of the Institution as a whole. The amounts shown under Unrestricted General represent administrative expenditures for those units that are organizationally under Administration. Certain other units receiving administrative allotments are reflected in the appropriate section of this budget request. (Administrative costs for the Smithsonian Astrophysical Observatory (SAO) are reflected within SAO's 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 have been provided for amortizing the costs of the development and implementation of a new 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, are subsequently transferred to endowment. Anticipated expenditures in the Special Purpose category include support of studies in ornithology and small amounts used for legal seminars, research, property taxes, Quadrangle film project, and expenditures of the Smithsonian Women's Committee.

Restricted Funds - Included in this category are endowment bequests and foundation grants for scientific research publications, and annuity payments to a former Under Secretary.

OFFICE OF DESIGN AND CONSTRUCTION

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|-------|------------------------------------|-----------------|--------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | Special Purpose | | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 37 | 1,571 | 8 | 266 | - | - | - | - | - | - |
| FY 1984 Estimate | 37 | 1,778 | 7 | 271 | - | - | - | - | - | - |
| FY 1985 Estimate | 39 | 1,933 | 7 | 298 | - | - | - | - | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Buildings and Facilities Management..155

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 its physical plant. Services include short- and long-range planning and feasibility analyses, design and engineering analyses, project management and cost and budgetary estimates. Further services include contract negotiation, contract supervision, general construction administration and management, interior design, space utilization planning and technical consulting support. For FY 1985, an increase of 2 positions and \$155,000 is requested for a construction cost estimator and an engineering technician (2 positions and \$55,000) and additional contract funds for architectural and engineering services (\$100,000).

PROGRAM - The Office of Design and Construction provides planning, engineering, architectural and related administrative services to the Institution and its facilities located in the Washington, D.C. 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 of electrical, mechanical and structural engineers, architects and construction managers is supplemented by a staff of architectural and engineering draftsmen, specification writers and administrative support personnel.

The services provided by the staff include development of facilities' master plans, detailed project designs and specifications and future year physical plant projects and budget estimates. Additional services include conducting architectural and engineering studies of buildings' operating problems and functional deficiencies, and reviewing designs prepared by the museums' exhibit staffs to ensure compliance with safety, health, accessibility and other technical standards. Other services include negotiating, reviewing and supervising architectural and engineering design contracts and construction contracts; performing architectural and engineering feasibility studies and analyses; and maintaining a central library for cataloging, filing and identifying all plans, drawings and specifications related to Smithsonian buildings and properties. Expertise also is provided to Smithsonian executive staff on matters relating to planned construction and facility development or utilization.

The primary objective of ODC is to administer the Institution's Restoration and Renovation of Buildings (R&R) program. Consequently, ODC's workload is related directly to the size of this program, which has increased from \$2,100,000 in FY 1979 to \$9,000,000 in FY 1984 and a proposed \$16,755,000 in FY 1985. The growth of the R&R account reflects the Institution's priority to ensure the adequate maintenance of an aging and complex physical plant, to upgrade fire detection and suppression systems, to correct unsafe conditions and eliminate architectural barriers, and to reduce energy consumption.

EXPLANATION OF PROGRAM INCREASE:

Buildings and Facilities Management (2 positions and \$155,000) - The preparation of detailed construction cost estimates is a Federal regulatory requirement for all construction work to be performed by contract, and accordingly must be included in contract documents. Such estimates also must be developed for all change order proposals and contract amendments to provide a basis for determining the legitimacy of proposed costs. ODC currently utilizes contracted services to prepare these estimates on a supplemental basis for staff engineers and architects. Based upon the cost of these services, the increasing workload and the need for continuous estimating activities, an additional cost estimator is necessary to fulfill this need (one position and \$37,000); also an additional engineering technician is necessary due to an increasing workload to provide drafting support for the design function and to assist in other supporting activities such as microfilming and field investigations (one position and \$18,000).

An amount of \$100,000 also is requested to procure additional contracted architectural/engineering services to supplement ODC staff. These services are related directly to planning, design and construction activities. Contracted services are utilized in order to limit staff increases; however, this effort must increase proportionally with increasing workloads. Thus, in FY 1985, the requested addition for architectural/engineering services will permit ODC to maintain the capability of addressing the projected workload increases in a most cost-effective manner.

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 \$271,000 in FY 1984 and \$298,000 in FY 1985) reflecting the fact that ODC provides services for Trust funded as well as Federally funded projects.

OFFICE OF PROTECTION SERVICES

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|--------|------------------------------------|------|-----------------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | | Special Purpose | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 570 | 14,515 | - | 6 | - | 23 | - | - | - | - |
| FY 1984 Estimate | 570 | 14,189 | - | 7 | - | 15 | - | - | - | - |
| FY 1985 Estimate | 587 | 15,296 | - | 7 | - | 20 | - | - | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

| | |
|--|--------------|
| Security Equipment Upgrading..... | 760 |
| Guard Shortage..... | 297 |
| Occupational Health..... | 50 |
| Total, Security and Occupational Health... | <u>1,107</u> |

ABSTRACT - The Office of Protection Services (OPS) is responsible for security, fire protection, safety, and health programs of the Smithsonian. For FY 1985, an increase of \$1,107,000 is requested for upgrading of security systems (\$760,000); to continue to alleviate the critical guard shortage (17 guards and \$297,000); and to support the Occupational Health Program (\$50,000).

PROGRAM - The Office of Protection Services provides security, fire protection, safety, and health services for visitors and staff of the Smithsonian Institution. The authority of OPS to administer these programs derives from 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 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 large 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 the Cooper-Hewitt Museum in New York City, and at 11 major museums and art galleries and at other major work, research and storage facilities in the Washington, D.C. area. The professional staff conducts in-depth studies of protection needs, escorts valuable shipments, 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 even in bureaus and facilities in which the security force does not operate, and it 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. In all, the Office is responsible for the protection of more than 5,000 employees, millions of visitors each year, the many facilities of the Institution, and the millions of collection items, the value of which is incalculable.

The security force operates 24 hours a day, seven days a week, to monitor conditions and activities in and around the buildings they protect, to enforce museum regulations, and to intervene in case of crime, accident, or other emergency. Uniformed guards, plainclothesmen, and K-9 officers are assigned in the galleries, around the grounds, and at entrances during the day and night. Coordinating their activities 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 and malfunctions of mechanical and electrical equipment, and provide information to museum visitors. 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 ability to use 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 order to provide adequate security coverage within current staffing limitations, OPS has begun to provide certain services through the use of contracts. In Washington, D.C., the contract undertaken in FY 1981 for operation of checkrooms and elevators that once were staffed by guards has been continued, and the contract for guard services at the Cooper-Hewitt Museum has been continued after a successful trial period.

A key part of the Institution's upgraded protection program involves the conversion to an electronic security and fire alarm system that is completely owned and operated by the Smithsonian. Plans call for the conversion to occur during the next decade. The first phase is now nearing completion at the Museum Support Center. The purposes of converting to a proprietary security system are to gain faster response time to security and fire protection alarms; to improve the quality of and to control 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 costs for which are escalating rapidly. The fire detection and security sensors that are elements of this system will be linked to eight local control rooms and to a central control room that monitors all alarm activity and provides emergency backup control. Closed-circuit television controlled by the computer would allow the control room operator to assess a problem. Patrolling guards would be dispatched to the area of the activated sensor for appropriate action. OPS currently has an S&E base of \$440,000 and an amount of \$400,000 is requested for FY 1985 in the Restoration and Renovation of Buildings section of this budget for the proprietary security system, to make building alterations and to purchase permanently installed equipment.

Fire and safety programs include training in preventive techniques; reviews of construction, renovation, and exhibit installation drawings; regular fire inspections of facilities; and annual safety and industrial hygiene inspections. These measures have resulted in 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. The safety staff works to eliminate hazards and 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 contaminated by asbestos are proceeding on schedule. The effort to eliminate the dangers of cellulose nitrate film in the Institution's collections also is well under way. Arrangements to provide safety shoes, safety glasses, and other equipment for employees are made as necessary. The safety staff continues to promote safety awareness among employees by coordinating the work of safety committees in every facility, by offering several training programs, and by publishing a safety newsletter for all employees.

Medical services for employees exposed to health hazards on the job or experiencing other job-related health problems now are under the direction of a new medical officer/administrator. The health services staff is developing and implementing effective monitoring programs for employees exposed to hazardous conditions, writing medical standards for employees appointed to certain positions, and developing a program of preemployment physicals. Programs to counsel employees troubled by alcoholism, drug problems, or emotional problems are continuing as are programs to provide immunizations for employees traveling on official business, 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 whenever the museums are open to the public.

EXPLANATION OF PROGRAM INCREASE - Based upon comprehensive studies of security conditions at all museums and facilities of the Institution, the Office of Protection Services has identified numerous areas where security systems are not adequate and opportunity exists for theft, break-in, or vandalism. While devices alone cannot provide complete security, they can increase the effectiveness of available security staff. OPS therefore is seeking funds for security devices and equipment in order to continue the program of systems upgrading begun in FY 1983. In FY 1983, \$1,702,000 was received and in FY 1984, OPS requested an amount of \$480,000. For FY 1985, an amount of \$1,240,000 is sought to repair, replace, and acquire new security equipment for the areas where the most serious problems exist in the protection of visitors, staff, and collections. This request is reduced by \$480,000 included as one-time resources in FY 1984 for a net FY 1985 increase of \$760,000. Also sought for FY 1985 are 17 guards and \$297,000 to continue to alleviate the critical guard shortage, and \$50,000 for the Occupational Health Program.

Security Equipment Upgrading (\$1,240,000) - Much of the security equipment in operation at the Smithsonian has been acquired over a long period of time to correct specific problems or to meet needs as they arose. As a result, the security given to the National Collections is uneven and in some instances inadequate. Several museums have systems which are obsolete or only function intermittently with frequent repairs required. Others have large areas of nonpublic space which are not monitored and where access is not controlled. Two facilities which will require particular attention are the National Museum of American History and the National Zoological Park.

1. Storage Security (\$264,000) - Only about ten percent of the Smithsonian collections is on exhibit; the remaining 90 percent is in collections storage areas. These range from well protected vaults for the highest value items to minimally protected storage rooms, attics and buildings (at Suitland, Maryland and North Capitol Street). Improved security is needed for the stored collections as evidenced by the fact that

during the past year several important objects were stolen from collections storage areas. The Institution has over 70 million objects and specimens in approximately one million square feet of storage space. The requested amount will be used for purchase and installation of contact alarms, card reader systems, and electric locks.

2. Perimeter Security (\$235,000) - Although most Smithsonian facilities have adequate security around windows and doors, certain ones lack devices to detect break-ins. To correct this situation balanced magnetic contacts are needed for over 100 perimeter doors, and break-glass or other newer vibrator sensors are required for windows to replace foil strips, the reliability of which is affected by changes in temperature and humidity. The proposed increase will be used to purchase required materials and to provide for installation.

3. Exhibit Cases (\$229,000) - Many of the exhibit cases now in public galleries were designed principally for aesthetics and with insufficient consideration for security. More than 600 exhibit cases have been identified which should be equipped with adequate security devices. The requested \$229,000 will be used to purchase and install detection devices, new shatter-resistant viewing panels and tamper-resistant hardware.

4. Closed-circuit Television (CCTV) Surveillance (\$179,000) - The use of the closed-circuit television in galleries and nonpublic areas can serve to reduce the number of guards needed to be deployed. The proposed \$179,000 will be used for the purchase of 54 additional CCTVs which can be monitored electronically by guards located in control rooms.

5. Replacement of Outmoded Security Equipment (\$208,000) - Security equipment consists of security sensors, alarm devices, contacts, ultrasonic devices, and rewiring. Many of these items have an average life of five years and deteriorate with wear and use. An additional amount of \$208,000 is sought to continue a regular replacement program for obsolete and deteriorated equipment.

6. General Interior Security (\$37,000) - Motion detection devices which are activated by movement in a protected area are needed for nonpublic areas and galleries that are closed during or after normal visitor hours. The problem is particularly acute in areas where public and nonpublic space are adjacent, and where access to nonpublic space can be gained easily since patrolling guards are present only for a minimal amount of time. Apart from providing continuous surveillance, these devices also improve security by reducing the number of nonpublic areas that guards have to cover on a regular basis. The proposed amount of \$37,000 will be used to purchase devices to be installed throughout the Institution.

7. Other Equipment (\$88,000) - Funds are requested in this category for security-related and very necessary equipment to aid in security patrols. A gas powered Cushman-type vehicle is required at the Zoo to aid police patrols (\$5,000). The game wardens at the Smithsonian Tropical Research Institute need two Boston Whaler boats to navigate and patrol safely the waters and islands at this research center (\$42,000). The Smithsonian Astrophysical Observatory at Mt. Hopkins in Arizona needs to replace worn-out portable radios and connect the radio system with a phone patch to ensure the security and safety of all personnel working at the facility (\$41,000).

Guard Shortage (17 positions and \$297,000) - The ability of the Office of Protection Services to protect Smithsonian facilities and the collections, property, and people inside them depends mostly on its ability to post security officers effectively to minimize danger to life and property. Guards must be available 24 hours a

day to respond to the signals of security devices, to control entry into and exit from buildings, to monitor environmental conditions within buildings, and to respond to any emergencies that occur. For FY 1985, an additional 17 positions and \$297,000 are requested.

There is no exact science to the determination of the number of guards needed to provide adequate protection for a museum and its contents. The determination of need is based upon a great many factors, including level of visitation, gallery layout, how much of a gallery a guard can see from a post, whether the items on display are out in the open or under glass, and the level of electronic security installed. During public hours, the need for guards is greatest in exhibit galleries, which are crowded with visitors and where objects on display are especially vulnerable to theft or damage. Outside public hours, the number of guards needed in Smithsonian buildings is smaller, but the guards must patrol all interior areas and be alert especially for intruders and for fire and other types of environmental damage. During the past few years activities such as those of the Woodrow Wilson Center and the Resident Associates have extended into the late night the times when access to the museums and the galleries is permitted. Although the museums officially close to the public at 5:30 p.m., OPS is unable to secure many of them, on a regular basis, until after 10:00 p.m.

In the final analysis, the determination of manpower needs must be based upon the best judgments of those who have experience in managing museum protection activities. Different museums, naturally, present different challenges to those who must make those judgments. For example, the layout of exhibit galleries in the National Gallery of Art makes it possible to place a guard between every two galleries. Therefore, one "standard" for guard requirements can be stated as one guard for every two galleries. At the Smithsonian, the museum most like the National Gallery in gallery layout is the Museum of American Art/Portrait Gallery building. If the "one guard for every two galleries" standard is applied, the Institution would have to place 20 guards on the second floor of that building. However, OPS's assessment indicates that five guards can provide adequate security for this floor.

Guards stationed at facility entrances prevent unauthorized entries and unauthorized removal of property. Seven positions in this request will allow the Office of Protection Services to open the south door of the Freer Gallery to the public, thus allowing access to the museum from Independence Avenue and improving compliance with fire and safety codes; to provide additional control at the south doors of the National Air and Space Museum and the National Museum of American History, where lobby size and presence of barriers make it impossible for one guard to observe every person entering or leaving the buildings; and to cover the south gate at Silver Hill, the recent opening of which has resulted in reassignments that reduce coverage in other areas of the facility.

Guards assigned to night tours in facilities also guard against intrusion and fire; check for safety and fire hazards, especially unattended office equipment left turned on; ensure that property and offices are secured properly; and guard against property damage caused by environmental problems such as improper temperature or humidity or leaky pipes. Ten positions in this request will allow the Office of Protection Services to improve nighttime protection at the National Museum of American Art/National Portrait Gallery, National Museum of Natural History/Museum of Man, and National Museum of American History, where the size of these buildings require the assignment of more guards.

Another period of vulnerability includes weekends and holidays, when the museums are open to the public but when most employees are not at work. The Institution normally relies on employees to provide a base level of protection in their offices by controlling movement of people and objects into and out of work areas and by reporting unusual or suspicious people or events. On weekends and holidays, security officers must take on the added responsibility of patrolling offices and work areas while the museums are open. This has the effect of decreasing the levels of observation in both areas.

Occupational Health (\$50,000) - The Office of Protection Services is continuing to offer health services on a regular basis to employees at many of the outlying facilities at which medical services were not available before FY 1981, and is nearing the final stages of the effort to reorient the Health Services Division so that its primary mission is effective occupational medicine rather than emergency assistance. The initial occupational medicine program will include pre-employment physicals and continued health monitoring of employees in critically or potentially hazardous job categories. The occupational health program work will be supplemented by the safety and industrial hygiene programs. Close coordination among these functions will be required in order to operate an effective program. This coordination will be aided greatly by the use of an information services data processing system. The services to be used on a time-sharing basis would include medical records, industrial hygiene sampling, occupational illness and injury, materials/agents inventory, safety and substance training, material safety data sheets, and audiometers. Some additional supplies and minor equipment will be required to augment the program.

The initial physicals will not encompass a large employee population, but the increased laboratory work-ups such as X-rays, urine samples and blood samples, will cost \$17,500 annually; time-sharing for the seven computer programs will cost \$22,500 annually; and increased supplies and equipment will be \$10,000 annually for a total of \$50,000 sought in FY 1985.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These are provided by an allotment and from reimbursements for the use of guard services at special events and for lectures at Smithsonian facilities, and are used for the purchase of supplies, materials, and equipment.

OFFICE OF PLANT SERVICES

(Dollars in thousands)

| Fiscal Year | FEDERAL FUNDS | | NONAPPROPRIATED SOURCES OF FUNDING | | | | | | | |
|------------------|---------------|--------|------------------------------------|-----------------|--------|------|------------|------|----------------------------|---|
| | | | UNRESTRICTED | | | | RESTRICTED | | FEDERAL GRANTS & CONTRACTS | |
| | | | General | Special Purpose | | | | | | |
| FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | FTP* | Amount | |
| FY 1983 Estimate | 396 | 27,206 | 5 | 1,051 | 1 | 58 | - | 49 | - | - |
| FY 1984 Estimate | 396 | 28,335 | 5 | 1,091 | 1 | 5 | - | 1 | - | - |
| FY 1985 Estimate | 424 | 29,814 | 5 | 1,174 | 1 | 5 | - | 1 | - | - |

*FTP = Full-time permanent positions

Analysis of FY 1985 Federal Increase

Buildings and Facilities Management..1,300

ABSTRACT - The Office of Plant Services (OPlantS) operates, maintains and repairs 12 museums and art gallery buildings and a number of other work and collections storage areas located in the Washington, D.C. metropolitan area and in New York City. OPlantS provides utilities, transportation, mail and telephone services in support of research, exhibit, education and other public programs. In addition, technical service and assistance are made available to other Smithsonian units located outside of the Washington, D.C. area.

For FY 1985, an increase of 28 positions and \$1,300,000 is requested to provide adequate resources for basic contractual services and supplies necessary to allow proper maintenance of all mechanical and electrical systems in Smithsonian facilities (\$650,000); and staffing (28 positions and \$650,000) to provide adequate maintenance, repair, and program and exhibit support.

PROGRAM - Office of Plant Services - With base operating resources of 326 positions and \$10,474,000, OPlantS operates, maintains and repairs the Smithsonian's physical plant on or near the Mall, including well over 4 million net usable square feet in all museums and art galleries. In addition, it 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 space in leased facilities. This includes maintenance of building interiors, exteriors and all mechanical and electrical equipment--such as elevators and escalators, lighting and refrigeration components--and emergency repairs to property which must be accomplished by service contract. Operational responsibilities for utilities funding and management include the maintenance of large and complex air conditioning, heating and ventilating systems and electronic environmental control systems for the comfort of visitors and for the protection of buildings, natural history and anthropological specimens and objects, paintings, sculptures and objects of American history and technology. Trade and craft assistance, including carpentry, painting, plumbing, sheetmetal and electrical work, is provided every year to research projects, special public events, office relocations and modifications and exhibition installations at all museums.

OPlantS also maintains a supply warehouse at the Smithsonian Institution Service Center where common and widely used supplies and materials, purchased in bulk to obtain the most favorable price, are stored and distributed. Custodial services, while decentralized to each museum, receive cleaning supplies and equipment from the Office of Plant Services. Packing, crating, warehousing and moving services are carried out for museum objects and collections. OPlantS also has responsibility for communications systems including the management and funding of telephone installations and services (Federal Telecommunications Network System and local calls) and the processing of and payment of mail. Transportation services, repair and operation of vehicles are carried out by the Office as well.

The Computerized Preventive Maintenance System for scheduling preventive maintenance requirements continued to provide for a highly reliable and efficient physical plant operation. The preventive maintenance program schedules periodic attention for all 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. For the past three years, FY 1981 to FY 1983, there were no equipment failures that could be attributed to a lack of proper maintenance. This record represents a significant accomplishment considering the age of much of the mechanical equipment in the Smithsonian buildings and attests to the reliability and effectiveness of the preventive maintenance program.

The Computerized Facilities Monitoring System, which was completed in FY 1980 and analyzes the operation of various mechanical equipment in major Smithsonian museums, continues to work effectively. The System uses sensors at over 1,893 points on equipment and automatically alerts a central control center to equipment malfunctions. These automatic alerts have aided in avoiding costly repairs during the past several years.

Office of Horticulture - The Office of Horticulture uses 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 to include interior and exterior landscape management from design through installation and major maintenance; research and development of historically styled gardens for museum grounds and special exhibitions such as "IGA, 1983," an international horticultural exhibit in Munich, Germany; 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 and flower beds.

South Group Buildings Management - South Group Buildings Management is responsible for the cleaning, minor maintenance, labor services, relamping, craft services, shipping and receiving, special events, contract coordination for maintenance, trash removal, pest control and renovation projects for the Arts & Industries and the Smithsonian Institution Buildings. Because of the frequent use of the two buildings for large and complex events, higher than normal levels of maintenance and cleaning must be provided. Services are provided on a seven-days-a-week basis. Additional demands will be placed on staff during the construction of the Quadrangle and renovation of the exterior of the Arts and Industries Building.

EXPLANATION OF PROGRAM INCREASE:

Buildings and Facilities Management (28 positions and \$1,300,000) - For FY 1985, an increase of \$650,000 is sought to provide adequate base funds for contractual services and basic supplies used extensively by the Office of Plant Services in maintaining Smithsonian buildings and in making emergency repairs to mechanical and electrical systems. Experience during past years has shown that, despite inflationary increases, large sums still have had to be reprogrammed from research, exhibitions and collections management programs of museum and research organizations in order to defray base shortages. The base shortage problem dates back to approximately 1977, and is primarily attributable to the dramatic inflationary increases in the price of oil-based products used for electrical, plumbing, paint, carpentry and mechanical maintenance and repair. The Smithsonian's inflation requests beginning in FY 1981 did not address the cumulative reductions in purchasing power since 1977 when the annual rate of inflation for oil-based products jumped 20-25 percent. While the rate of inflation has begun to slow in the past couple of years, existing base funds still are not adequate to purchase needed supplies and services at the same level each year.

To illustrate the effect that inflationary price increases have had in creating the base shortage, one has only to look at the following examples. The cost of the elevator maintenance contract has risen from \$223,000 in FY 1979 to \$273,000 in FY 1983; the uniform cleaning contract has risen from \$33,000 in FY 1979 to \$71,000 in FY 1983; OPlantS' power management and equipment monitoring computer contract has increased from \$13,000 in FY 1979 to \$23,000 in FY 1983. A carton of plastic bags used for trash collection has increased from \$13.40 in FY 1979 to \$20.66 in FY 1983; number 12 electrical wire has risen from \$14.68 a coil in FY 1979 to \$33.25 in FY 1983; a gallon of white paint has risen from \$6.49 in FY 1979 to \$9.21 in FY 1983; and a sheet of 4' x 8' x 1/2" of plywood has risen from \$16.77 a sheet in FY 1979 to \$20.50 in FY 1983. These contract and material samples represent an average 36 percent increase in costs for FY 1983 over FY 1979. Similar increases have been experienced over this period in almost all mechanical, custodial and craft supplies and annual service contracts used in the day-to-day operation, maintenance and repair of the physical plant.

OPlantS strives to economize wherever possible, including procuring many supply and equipment items through the General Services Administration or off GSA Schedules, procuring in bulk quantities to obtain price reductions, and requiring competitive bids whenever appropriate. Reductions in the scope of service contracts and the volume of supplies purchased each year are impossible without severely endangering the safety and health of visitors and staff, the condition of the collections, and the operation of Smithsonian buildings.

The addition of \$650,000 will provide sufficient base funds to allow the Office of Plant Services to meet its operations and maintenance obligations without the need for diverting significant resources from other Institutional programs.

An increase of 28 positions and \$650,000 also is sought to reduce excessive backlogs of work by increasing OPlantS' capability to provide maintenance, repair, program and exhibit support. The primary responsibility of the Office of Plant Services is to maintain, repair and operate Smithsonian facilities. A secondary role arising from its capabilities for maintenance and repair is that of providing building-related support in the form of space alterations, improvement and associated services to facilitate program operations including exhibit preparation and demolition. During the past eight years, OPlantS' workload has expanded with the addition of new buildings and major new systems coupled with the progressive aging of a larger physical plant and complicated further by a growing frequency of repair arising in part from previously deferred preventive maintenance. However, during this same period, OPlantS staffing has declined in the trade and craft shops and remained essentially unchanged in the areas of utilities maintenance and operation.

Faced with increased workloads and declining staff, OPlantS strives to improve its capability to maintain and repair building components and utility systems in ways that would conserve staff time. Examples of efforts include initiation of an automated preventive maintenance program for heating, ventilating and air conditioning systems for Smithsonian buildings on or near the Mall, and installation of an automated equipment monitoring system to reduce the need for engineer watch tours and allow for the more productive use of available personnel. These measures, although effective, have served only to slow down rather than eliminate the problem. For the past three years (FY 1980 to FY 1983), a total of 65 percent of the trade and craft and utilities maintenance and operation effort has been devoted to maintenance and repair with the remaining 35 percent expended on program and exhibit support. In FY 1979, the ratio was 75 percent devoted to maintenance and repair, a ratio more typical of preceding years. Thus, while a significant portion of OPlantS' resources has been employed for maintenance, the ratio has declined when compared with FY 1979 as a result of increased bureau dependence on OPlantS for program and exhibit support work. The source of this decline rests in the trade and craft shops where the ratio between maintenance and program/exhibit support has remained a steady 32 percent devoted to maintenance and 68 percent for program and exhibit support. This trend resulted in a backlog of unmet requests confronting OPlantS at the beginning of FY 1983, which reflected that 65 percent was deferred maintenance or repair projects and 35 percent was for program/exhibit needs.

While it is clear that an increase in maintenance capacity is necessary, this must be weighed in conjunction with OPlantS' responsibility and capacity for program/exhibit support. Even though properly viewed as a subsidiary responsibility of OPlantS, provision of this support is essential in meeting building-related program needs, with use of OPlantS resources representing, more often than not, the most sensible and cost effective solution to such requirements. Indeed, the creation or alteration of space and related features for programmatic purposes is a significant contributor to program success and staff productivity, as well as the continuation of exhibit programs at desired levels.

NONAPPROPRIATED SOURCES OF FUNDING:

Unrestricted General and Special Purpose Funds - These funds are provided by allotments and are used primarily to cover salaries and some support costs of five full-time positions (estimated expenditures of \$189,000 in FY 1984 and \$200,000 in FY 1985) 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 Network System and for the Trust fund share of space rental costs for administrative units located in L'Enfant Plaza (estimated expenditures of \$896,000 in FY 1984 and \$968,000 in FY 1985). Special Purpose funds are provided primarily from user reimbursement for services rendered to Trust funded units and 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)

| | | |
|-------------------------|--------------|--|
| 1983 Appropriation..... | \$ 2,000,000 | } Equivalent in Excess Foreign Currencies |
| 1984 Estimate..... | \$ 9,040,000 | |
| 1985 Estimate..... | \$10,750,000 | |

For FY 1985, the Smithsonian requests \$10,750,000 equivalent in foreign currencies which have been determined by the Treasury Department to be in excess of the normal needs of the United States. The Smithsonian 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.

This 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 (\$4,000,000);
- to bring to the desired level of \$10,000,000 equivalent in Indian rupees the forward-funded reserve in support of future programs of the American Institute of Indian Studies (\$4,750,000);
- for the third and final increment of the United States contribution to the international effort to restore and preserve the ancient city of Moenjodaro in Pakistan (\$2,000,000).

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 (currently Burma, Guinea, India and Pakistan 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, for most projects directly involve host country institutions and scholars. Enduring professional ties which result from joint efforts and scholarly exchange contribute to the strongest form of United States cultural and scientific relations with other nations. Also, these ties further contribute to the integration of the world-wide advancement of science which serves to narrow the gap between the industrial and the developing nations.

The Importance of Research in the Natural Sciences and Cultural History

The rapid growth of world population and of technological development has resulted in significant effects on the natural environment and on society. Research sponsored by the Smithsonian in the natural sciences and in cultural history is aimed in part at improving understanding of the environment, the management and protection of scarce resources, and the cultural setting within which social changes take place.

In FY 1983, grants supported the following projects of special interest:

A geological team tested on the ground in Egypt radar images of archeological sites taken from the space shuttle Columbia. The images revealed important unknown features several feet below the surface of the desert.

Ancient pollen samples taken at sites in Pakistan are helping to date some of the oldest paleolithic material found to date on the Indian subcontinent.

An architectural survey of the Hindu imperial capitol Vijayanagara is establishing the organizational patterns and principles embodied in one of the greatest of medieval urban centers.

Refugees now resident in India are being interviewed to document the final years of Tibetan history 1933-1950.

Further, with emphasis on information exchange through small workshops, symposia and field conferences, the Smithsonian is encouraging international research in specialized areas, such as environmental research, wildlife and ecosystem studies, and museum techniques. In FY 1983, for example, United States scholars received support for participation in exchanges on the subjects of social class structure, Pakistani archeology, elephant management, Hindi studies and cosmic ray physics.

The Importance of Multi-Year Grants

Beginning in FY 1979, the Smithsonian Foreign Currency Program began a policy of multi-year 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 as well as of facilities. Multi-year 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 multi-year grants to protect successful projects from sudden termination when excess currency accounts were abruptly exhausted. This happened in Poland and Tunisia in 1976 and in Egypt in 1981. With multi-year funding over a three-year period, 10 projects in Egypt were funded to appropriate ends and three continuing projects gained sufficient time to seek other funding sources.

India is currently projected for removal from the excess currency list in 1988. The Smithsonian hopes to provide stabilizing funding for selected projects before that time through multi-year grants and, for the American Institute of Indian Studies, a substantial forward-funded reserve.

Benefits to United States Institutions

Since the inception of the program in FY 1966, Smithsonian grants have been made to 225 United States institutions in 41 states and the District of Columbia to support more than 800 individual projects. Publications known to have resulted from program grants totaled more than 1,375 to date.

The benefits to United States institutions and host countries go beyond the accumulation of data, extending to collections of original biological specimens and the archeological and ethnographic materials that are acquired in the course of field research. These remain available for further study and interpretation by future generations of scholars long after the research teams supported by the Smithsonian have dispersed and their conclusions have been published. More than 100 such research collections have been placed in United States universities and museums. A similar number of collections has been added to the research resources of the excess currency countries.

The advantages of the program also have extended to a greater number of institutions than the 225 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 37 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 more than 500 AIIS fellows over the 16-year period from FY 1968 through FY 1983. The fellows were drawn from 62 United States institutions in 23 states. Program grants also have supported more than 80 ARCE projects over the 18-year period from FY 1966 through FY 1983, and since FY 1977, 70 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 65 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.

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.

An annual review of scientific progress by the advisory councils takes place for all projects following their first year of operation before additional monies are awarded. In addition, Smithsonian staff scientists and program advisory council members visit projects in the field when firsthand scientific reports are considered necessary. Smithsonian policy requires that grantees publish scientific results and that scientific collections be readily accessible to the scholarly community.

The Importance to the Smithsonian of Awards for Research

Access to funds for independent research is an essential factor in enabling the Smithsonian to attract and retain leading scholars 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 reviewed by the same councils of distinguished scholars as are proposals from other institutions. Continuing projects also are subject to annual reviews. (These processes are described above in the section entitled "Scientific Review under the Smithsonian Program.") The Special Foreign Currency Program awards to Smithsonian employees, as to other scholars, often involve participants from other organizations and universities as collaborators. No Smithsonian employee, nor any other grantee, receives personal compensation to duplicate or supplement their salary. Program awards cover only field research costs in the excess currency country, travel to that country, and the cost of publications resulting from research conducted in "foreign currency" countries.

The awards to Smithsonian employees are executed as normal Federal allotments to the individual bureaus of the Institution for the support of approved research projects. Such funds are expended in accordance with Federal procurement and personnel regulations.

FORWARD-FUNDED RESERVE FOR THE AMERICAN INSTITUTE OF INDIAN STUDIES

Since 1967, the Smithsonian has provided annual funding 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.

Overseas research centers which depend heavily on excess currency support for operations and programs are often threatened with closure when their major source of funding is suddenly cut off, as happened in Egypt in 1981. The American Research Center in Egypt is now facing the possibility of closing its doors when its grant terminates in 1984 and many projects which would have continued for many years had to be brought to conclusion after 1981.

In FY 1980 and FY 1981, anticipating the future depletion of the excess Indian rupee, the Smithsonian sought and received appropriations totaling \$1,250,000 for a forward-funded reserve for continuation of the activities of the American Institute of Indian Studies after the demise of the excess currency program in that country. Estimates of the date have varied but a preliminary survey has been conducted and the closeout date is established for FY 1988.

In addition to appropriations of \$500,000 in FY 1980 and \$750,000 in FY 1981, \$4,000,000 has been requested for FY 1984. In FY 1985, a further sum of \$4,750,000 equivalent in Indian rupees is requested for addition to the forward-funded reserve. The reserve of \$10,000,000 equivalent in rupees is to be maintained intact, until such time as the depletion of the United States Indian rupee account causes its removal from the "excess" currency list.

INTERNATIONAL EFFORT TO SALVAGE MOENJODARO

In 1921, two important discoveries were made in the Indus Valley of India, now Pakistan, when archeologists discovered the remains of the cities of Harappa, near Lahore, and Moenjodaro, about 250 miles north of Karachi. These two cities apparently are the products of the Harappan civilization which flourished over 4,500 years ago, from about 3000 B.C. to 1500 B.C. Moenjodaro, a city of a square mile, is the larger and more impressive of the two sites. From the standpoint of planning, sanitation and social organization, this city anticipates developments which only blossomed several thousand years later.

The excavated ruins at Moenjodaro have been threatened since their discovery by two main causes of destruction: floods of the Indus River and highly saline ground waters have caused the serious deterioration of the excavated remains.

Since the 1960s, the Government of Pakistan has appealed to the international community for assistance in salvaging Moenjodaro by diverting the river, lowering the water table, providing remedial action to stabilize threatened buildings and preventing disintegration of those that have not yet been seriously damaged, and installing appropriate landscaping. UNESCO responded to Pakistan's appeal and, in 1974, agreed to lead an international fund-raising campaign. In the interim, the Government of Pakistan, with the assistance of UNESCO, has conducted a series of technical studies relating to river control, dewatering and other methods conducive to the eventual preservation of the site.

The project, long in the planning stage, is underway, with a ground water control scheme now nearing completion and preparations of the river control scheme advancing rapidly. The consolidation and treatment of the remaining structures is continuing and landscaping work has started. Salt-resistant plants will be planted for erosion control and to provide suitable protection from wind-driven sands.

On October 10, 1979, an agreement between UNESCO and the Government of Pakistan for the preservation and development of the monumental site of Moenjodaro was signed. Following this, an Executive Committee of the Campaign was set up to advise the Director-General of UNESCO on all aspects of the project. The Committee has held several meetings during which various aspects of the plans were reviewed.

To date, UNESCO has raised approximately \$3,300,000, mainly from governmental contributions of member states and the Government of Pakistan has made an initial commitment of \$2,000,000 for the project. The funds raised thus far have been deposited in an international trust fund for Moenjodaro. Considering that the total budget for the project is now estimated at more than \$13,000,000, the Committee is seeking new or additional contributions.

In FY 1982, the Institution transferred to UNESCO the appropriation of \$960,000 equivalent in nonconvertible Pakistani currency as an initial contribution from the United States toward this important project. An amount of \$1,000,000 is requested in FY 1984. The Smithsonian is seeking a third and final increment of funds for this project in FY 1985, a sum of \$2,000,000 equivalent in Pakistani rupees, to complete the United States contribution.

FACILITIES PLANNING, RENOVATION,
RESTORATION, AND CONSTRUCTION

OVERVIEW OF SMITHSONIAN PROGRAMS FOR CONSTRUCTION, RESTORATION AND RENOVATION

Consistent with its responsibility and commitment to maintaining museum and other buildings and providing for future facility needs, the Smithsonian is embarking upon a carefully planned, integrated improvements program involving restoration, renovation and repair of existing facilities and the planning, design and construction of additional facilities essential to future programmatic needs. Since each of the many projects planned requires considerable study, planning, and design before drawings and specifications can be issued for bid solicitation, it is necessary to forecast these projects several years in advance of seeking appropriations and authorization. This process greatly assists in the orderly development of facility requirements and a well managed program for implementation of each project. The following overview highlights the most significant aspects of the Construction and Restoration and Renovation programs for FY 1985 through FY 1989.

Quadrangle Construction

An amount of \$36,500,000, (one-half of the estimated total project cost) was appropriated in FY 1983 to allow the Institution to construct a building in the Quadrangle for a Center for African, Near Eastern, and Asian Cultures. On June 30, 1983, the General Services Administration (GSA) awarded a construction contract for the Quadrangle project, with work to begin by the Blake Construction Company in the amount of \$39,377,000. GSA has since issued a notice to proceed effective July 20, 1983. The period of performance is 915 days with a contract completion date of January 20, 1986.

Prior to completion of the Quadrangle project, the Institution plans to solicit bids for a connecting tunnel between the Freer and the Quadrangle and space improvements within the Freer as well as the installation of security systems and other equipment items at an estimated cost of \$8,000,000.

General Post Office Building

The Smithsonian long has been interested in obtaining the General Post Office Building located on F Street and further bounded by 7th, 8th and E Streets in north-west Washington, D.C. The General Post Office Building would provide increased space for expanding the public activities of the National Museum of American Art, the National Portrait Gallery, and the Archives of American Art which occupy the Patent Office Building immediately across the street. The firm of E. Verner Johnson and Associates has been selected to develop specific use and program plans for the building and to assess the positive effect the use of this building would have on activities presently confined to the Patent Office Building. A preliminary report by this firm is expected in September 1983.

An estimated \$35,000,000 will be required to renovate, repair and convert the building for public use. Plans call for preserving the historic nature of the building and implementation of a comprehensive program to provide adequate fire protection, temperature and humidity controls.

Science Facilities Development

The Institution is obtaining approval from its Board of Regents to assemble in one legislative bill planning and construction authorization for science facility development. Unlike prior year repair and improvement activities, current research objectives include a coordinated effort to improve science facilities commensurate with the Institution's longer range scientific expectations. These projects, briefly described, are as follows:

1. Smithsonian Environmental Research Center (SERC)

Resulting from an in-depth review and study of the research programs of the Radiation Biology Laboratory located in leased space at Rockville, Maryland, and of the Chesapeake Bay Center for Environmental Science located at Edgewater, Maryland, the Institution developed a plan to integrate these bureaus, consolidating and strengthening their research programs at a single facility at the Bay Center site. This new bureau, known as Smithsonian Environmental Research Center, will require new construction, as well as improvements to existing facilities. Plans call for the construction of a new 60,000 square-foot laboratory building, a new wet laboratory, upgrading of the existing education and administrative buildings, installation of four environmentally controlled and scientifically equipped greenhouses, and improvements to roads and utility systems. The Institution anticipates requesting \$2,400,000 in FY 1986, and \$23,100,000 in FY 1987 for these purposes.

2. Air and Space Museum

The National Air and Space Museum (NASM) building was designed with the concept that storage of aircraft and other objects would be achieved at a remote location. Presently, the Museum maintains temporary metal buildings at Suitland, Maryland, which are inadequate for the storage or exhibit of large air and space craft such as the Concorde or the Space Shuttle, which will eventually become part of NASM's collection. After thorough investigation of area airport facilities, the Museum has identified Federal land at the Dulles Airport reservation site that could accommodate the Museum's air transportation requirements, as well as construction of larger hanger-type buildings needed for storage and exhibition purposes. The Board of Regents will be discussing conceptual development of this site at its September 1983 meeting to allow preliminary planning for eventual construction in FY 1988. Four hanger buildings are envisioned at an approximate cost of \$12,000,000 each. This construction program is expected to span ten or more years.

3. Fred L. Whipple Observatory

Since installation of the multiple mirror telescope (MMT) at the Whipple Observatory near Tucson, Arizona, facility improvements have been accomplished through use of the Restoration and Renovation account for such projects as service roads and research support facilities at the Observatory. Due to site restrictions imposed by the Forestry Service, administrative support facilities have been located in leased space approximately 18 miles from the summit at Amado, Arizona. As the State of Arizona, is reluctant to continue leasing the Amado space, the Institution is seeking legislative approval and authorization to purchase property at Amado and to construct support facilities there. These projects will be requested in FY 1986 and will cost an estimated \$3,000,000.

4. Tropical Research Institute

The Institution has for many years maintained numerous wooden and other aged structures at the Smithsonian Tropical Research Institute (STRI) in Panama. Many of these buildings are inadequate to sustain modern research activities, are badly deteriorated due to tropical weather conditions, and have suffered extensive damage due to termites. In order to provide safe and adequate housing and research facilities, the Institution is requesting authorization to improve existing STRI facilities and to construct buildings that can better resist the damp climate. This multi year program will begin with an FY 1986 request of \$6,500,000 to construct a terrestrial laboratory at the Tivoli site in order to vacate current inadequate leased space at Ancon, also in Panama City. The entire plan is estimated to cost approximately \$12,750,000 and includes construction at the Naos and Galeta sites and at Barro Colorado Island.

Administrative Service Center

The concept of a downtown Smithsonian Service Center was developed in 1975, when a number of Institution support activities located at several leased buildings in Washington, D. C. were moved to a single leased location at 1111 North Capitol Street. As a result, these activities were able to provide more efficient support to museums and other bureaus located principally on the Mall. Support activities now located at the Service Center include the Office of Exhibits Central, which fabricates exhibits utilizing a variety of basic materials such as lumber, plastic, paper, etc. Other activities conducted at the Service Center include the assembly, processing, packing, crating and shipment of outgoing traveling exhibits for the Smithsonian Institution Traveling Exhibition Service; the receipt, storage and issue of general office, museum and building operation and maintenance supplies and equipment; and printing, duplicating and distribution activities of the Smithsonian Institution Press.

During the term of the present lease, the building was sold to a development firm. From discussions with principals of the firm, it is clear that the current owners plan to redevelop the property to accommodate other uses. Therefore, authorization will be sought to design and construct replacement space for those activities now at 1111 North Capitol Street, together with other central support activities now on the Mall and in leased space at various locations which are expected to outgrow their present space by the year 2000. Presently, this is estimated to require a new Service Center of about 250,000 gross square feet. An amount of \$9,000,000 will be requested in FY 1987 for planning and site acquisition and \$18,000,000 will be sought in FY 1988 for construction, although alternative methods of financing will also be explored.

Zoo Construction

Redevelopment of the Rock Creek Zoological Park began about 1970, and to date approximately \$37,000,000 has been appropriated for this purpose. It is anticipated that approximately \$23,000,000 will be required from FY 1985 through FY 1989.

Remaining improvements and exhibition projects include construction of a Health and Research Facility, improvements to Olmsted Walk, a Goats and Sheep Exhibit, a Savannah and Plains Animals Exhibit, and an Aquatic Habitats Exhibit. The largest of these, the Aquatic Habitats Exhibit costing an estimated \$12,000,000, is planned for FY 1988. This exhibit has been reintroduced in this period owing to recent technological advances, some of which were employed at the San Diego Zoo's Arctic Exhibit for Penguins.

Renovation and improvements at the Zoo's Conservation Center at Front Royal, Virginia, are expected to cost approximately \$5,700,000 from FY 1985 through FY 1989.

Restoration and Renovation of Buildings

Projection of needs for the Smithsonian's Restoration and Renovation of Buildings program requirements indicates that substantial increases will be necessary in order for the Institution to properly maintain its facilities. While this growth and that planned for subsequent years are partially attributable to the effects of inflationary increases on costs for construction related materials and services, the current request also indicates the Institution's commitment to strengthen preventive maintenance, repair and improvement programs essential to allow proper maintenance of buildings and facilities.

Substantial work is required to keep Smithsonian facilities, many of which exceed 100 years of age, in good repair and efficient operating condition. This is important for several reasons, perhaps one of the most significant being that the majority of the Institution's museums are included on the National Register of Historic Places, which imposes a special responsibility under the provisions of the National Historic Preservation Act to ensure that they are maintained in a manner consistent with their architectural character. Additionally, the proper care and protection of the National Collections also are crucial reasons to maintain adequately the Institution's facilities. The Smithsonian's legal responsibility to serve as the official repository of the National Collections (20 U.S.C. 41 et seq.) provides that the Institution not only accept and store art objects, natural specimens and artifacts, but they must be conserved properly. The collections also can be damaged irreparably by inadequate environmental control. This will be accomplished through continuing efforts to upgrade heating, ventilating and air conditioning systems as well as maintaining and improving electrical, mechanical and plumbing systems in Smithsonian facilities.

Requirements for the safety and security of visitors and staff also demand that facilities be in proper repair. Fire detection and suppression equipment must be upgraded and modernized in order to provide the level of protection consistent with today's technology. Sprinklers, smoke detectors, fire doors and other improvements are needed and exits must be improved in older buildings to meet current code requirements.

Greater awareness and attention to the needs of disabled persons have resulted in the definition of requirements for the Institution's facilities in order to make them more accessible to all visitors and staff. These requirements are met also in new exhibits and construction projects.

Program objectives for research, exhibition and conservation at the Smithsonian facilities, particularly at outlying facilities, present mandatory requirements for repair, improvement and renovation work. These responsibilities must be met to provide for efficient operation and appropriate support of the programs of all Smithsonian facilities. Strengthened preventive maintenance programs, together with a carefully developed and executed facilities improvements plan, will provide buildings which better support the wide range of research, exhibition, collections management, education and other public service activities carried out by the Smithsonian.

(\$000's)

PROJECTION OF FEDERAL CONSTRUCTION AND RESTORATION AND RENOVATION PROGRAM

| <u>Category</u> | <u>FY 1984</u> | <u>FY 1985</u> | <u>FY 1986</u> | <u>FY 1987</u> | <u>FY 1988</u> | <u>FY 1989</u> |
|--|----------------|----------------|----------------|----------------|----------------|----------------|
| Construction /1 | — | 3,500 | 51,400 | 34,050 | 33,200 | 15,300 |
| Construction and Improvements, National Zoological Park | 3,500 | 4,250 | 9,545 | 6,400 | 14,270 | 3,450 |
| Restoration and Renovation of Buildings | <u>9,000</u> | <u>16,755</u> | <u>20,990</u> | <u>23,100</u> | <u>26,715</u> | <u>26,005</u> |
| TOTAL | 12,500 | 24,505 | 81,935 | 63,550 | 74,185 | 44,755 |

/1 Includes amounts of \$1,200,000 in FY 1988 and \$10,800,000 in FY 1989 for the proposed Administration Office Building which might be funded from private sources.

Detail of projects for the above categories (including Trust funded projects proposed) follow.

(\$000 's)

SMITHSONIAN INSTITUTION
FEDERAL AND TRUST FUNDED CONSTRUCTION PROJECTIONS
FY 1984 - FY 1989

| CONSTRUCTION | FY 1984 | FY 1985 | FY 1986 | FY 1987 | FY 1988 | FY 1989 |
|---|---------|---------|---------|---------|---------|---------|
| Freer Modifications | | | 8,000 | | | |
| General Post Office /1 | | 3,500 | 31,500 | | | |
| Science Facilities Development /2 | | | | | | |
| Smithsonian Environmental Research Center | | | 2,400 | 23,100 | | |
| NASM/Dulles | | | 1,200 | 12,000 | | |
| Whipple Observatory | | | 3,000 | | | |
| Smithsonian Tropical Research Institute | | | 6,500 | 750 | 2,000 | 3,500 |
| Administrative Service Center /3 | | | | 9,000 | 18,000 | |
| Suitland Development /4 | | | | | | 1,000 |
| Administration Office Building /5 | | | | | 1,200 | 10,800 |
| NASM Restaurant /6 | 12,000 | | | | | |
| TOTAL | 12,000 | 3,500 | 51,400 | 34,050 | 33,200 | 15,300 |

/1 It is anticipated that a planning and construction authorization bill may be obtained in FY 1984.

/2 This plan envisions submitting to Congress a Science facility planning and construction authorization bill, to include base camp construction at Amado, Arizona; a major laboratory building at the Tivoli site and improvements at other STPI facilities in Panama; relocation of the RBL research activities to the Chesapeake Bay site; and development of NASM facilities at Dulles Airport to supplement buildings at Suitland, Maryland. Total estimated planning and construction costs of this package for FY 1986 - FY 1989 is \$54.5 million.

/3 A facility to replace the leased North Capitol Street center.

/4 Additional needs are projected in future expansion of museum support facilities at Suitland for History and Art and Libraries.

/5 This project anticipates purchase or construction of an office building near the Mall as a replacement for current leased office space and may be funded partially or entirely with Trust funds.

/6 Concept is to establish at the Museum improved public facilities and quality food service. Construction of an addition to the Museum at the east terrace is expected to be financed by corporate/concessionaire funding.

(\$000's)

NATIONAL ZOOLOGICAL PARK
Construction Program
1974-1989

| Activity | 1974-83 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | Repro- grammings | TOTAL |
|---|----------|-------|-------|-------|--------|--------|----------|---------------------|--------|
| I. Master Plan | | | | | | | | | |
| Lion-Tiger Facility | 3,000 /1 | | | | | | | | 3,000 |
| Elephant/Bird House | 3,130 | | | | | | | +26 | 3,156 |
| Education-Administration Building | 2,500 | | | | | | | -157 | 2,343 |
| General Services Facility | 7,000 | | | | | | | +834 | 7,834 |
| Lower Rock Creek Valley | 3,000 | | | | | | | -1 | 2,999 |
| Beaver Valley Area | 6,410 | | | | | | | -431 | 5,979 |
| Central Area | 10,390 | | | | | | | -264 | 10,126 |
| Waterfowl Pond and Small Cats | 520 | | | | 700 | 12,000 | | -15 | 505 |
| Aquatic Habitats | 500 | | | | | | | | 13,200 |
| Health & Research Facility (incl. Holt House Renovations) | | 400 | 3,900 | | | | | | 4,300 |
| Master Graphics | 200 | | | | | | | +1 | 201 |
| Entranceway & Olmsted Walk | 350 | 2,000 | 1,000 | | 1,500 | | | | 4,850 |
| Goats & Sheep Exhibits | | 50 | | | 500 | | | | 550 |
| Savannah & Plains Animals | | | | | | 60 | 600 | | 660 |
| Subtotals | 37,000 | 2,400 | 4,950 | 2,700 | 12,060 | | 600 | -7 | 59,703 |
| II. Renovations, Repairs & Improvements | | | | | | | | | |
| Rock Creek | 5,180 | 1,000 | 1,100 | 1,250 | 1,400 | 1,500 | 1,500 /2 | +7 | 12,937 |
| Totals, Rock Creek | 42,180 | 1,000 | 3,500 | 6,200 | 4,100 | 13,560 | 2,100 | - | 72,640 |
| III. Conservation and Research Center Development Plan | | | | | | | | | |
| Hoofed Stock Barn | 650 | | | | | | | | 650 |
| Small Animal Facility | 980 | 700 | | | | | | | 1,680 |
| Veterinary Hospital | | 1,400 | | | | | | | 1,400 |
| Maintenance Facility | | | 100 | 725 | | | | | 825 |
| Primate Facility | | | 200 | 170 | 1,700 | | | | 1,870 |
| Large Hoofed Stock Facility | | | | 2,000 | | | | | 2,200 |
| Road Improvements/Extensions | | | | | | 60 | 600 | | 660 |
| Administrative Facility | | | | | | | 100 | | 100 |
| Subtotals | 1,630 | 2,100 | 300 | 2,895 | 1,700 | 60 | 700 | - | 9,385 |

(\$000's)

NATIONAL ZOOLOGICAL PARK
Construction Program
1974-1989

| Activity | 1974-83 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | Repro- grammings | TOTAL |
|---|----------|-------|-------|-------|-------|--------|-------|---------------------|--------|
| IV. <u>Renovation, Repairs & Improvements</u> | | | | | | | | | |
| Conservation & Research Center | 4,404 | 400 | 450 | 450 | 600 | 650 | 650 | /2 | 7,604 |
| Totals, Conservation & Research Center | 6,034 /3 | 2,500 | 750 | 3,345 | 2,300 | 710 | 1,350 | -- | 16,989 |
| GRAND TOTALS | 48,214 | 3,500 | 4,250 | 9,545 | 6,400 | 14,270 | 3,450 | - | 89,629 |

/1 Excludes \$275,000 for planning appropriated in FY 1973.

/2 In subsequent years, major repairs and maintenance are expected to require \$1,500,000 at Rock Creek and \$650,000 at the Conservation and Research Center annually.

/3 Excludes \$125,000 appropriated in FY 1975 under Restoration and Renovation of Buildings Account.

RESTORATION AND RENOVATION OF BUILDINGS
 PLANNED PROGRAM
 FY 1984 - FY 1989

| | FISCAL YEARS | | | | | Total FY 1985-89 |
|---|--------------|-------|-------|-------|-------|---------------------|
| | 1984 | 1985 | 1986 | 1987 | 1988 | |
| <u>GENERAL REPAIRS AND IMPROVEMENTS</u> | 345 | 955 | 1,795 | 1,410 | 850 | 2,200 |
| <u>FACADE, ROOF AND TERRACE REPAIRS</u> | | | | | | |
| American Art/Portrait Gallery (AA/PG) | | 150 | 180 | | | 330 |
| -repair stone facade | | | | | | |
| Arts and Industries Building (A&I) | | | | | | |
| -roof and exterior renovation | 2,500 | 2,500 | 1,500 | | | 4,000 |
| Freer Gallery of Art | | 265 | | | | 265 |
| -skylight repairs | | | | | | |
| Hirshhorn Museum (HMSG) - resurface plaza | | | | | 3,000 | 3,000 |
| Museum of American History (MAH) | | | | 245 | | 245 |
| -north and south entrance door replacement | | | | 570 | | 570 |
| -window replacement | | | | | | 925 |
| -remove ramp and canopy/waterproof | | 710 | | | | 710 |
| -roof replacement | 500 | | | | | 175 |
| -planning/design fountain renovation | | | | | | |
| Museum of Natural History/Museum of Man (MNH/MOM) | | | | | | |
| -caulk and point facade | | 540 | | | | 540 |
| -roof replacement | | 200 | 1,000 | | 2,000 | 3,200 |
| National Air and Space Museum (NASM) | | | | | | |
| -plaza replacement | | | 200 | | 4,500 | 4,700 |
| -roof repairs | | | | | | 300 |
| -facade repairs | | 100 | | 200 | 200 | 700 |
| Renwick Gallery - facade renovation | 1,800 | | | | | |
| Smithsonian Environmental Research Center (SERC) | | | | | | |
| -roof repairs | | 90 | | | | 90 |
| Smithsonian Institution Building | | | | | | |
| -replacement of stones and facade | | 50 | | | | 50 |
| All other projects in this category | | | 60 | | | 160 |
| Subtotal, Facade, roof and terrace repairs | 4,800 | 4,305 | 2,040 | 1,970 | 6,700 | 4,945 |
| | | | | | | 19,960 |

RESTORATION AND RENOVATION OF BUILDINGS
PLANNED PROGRAM
FY 1984 - FY 1989

| | FISCAL YEARS | | | | | | Total FY 1985-89 |
|--|--------------|-------|-------|-------|-------|-------|---------------------|
| | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | |
| <u>FIRE DETECTION AND SUPPRESSION SYSTEMS</u> | | | | | | | |
| A&I - sprinklers and smoke detection | | 75 | 100 | 75 | 75 | 75 | 400 |
| AA/PG - sprinkler systems | | 180 | 120 | | | | 300 |
| HMSG - sprinkler systems | | | | 105 | | | 105 |
| MAH - fire protection master plan | 350 | 200 | 700 | 500 | 500 | 500 | 2,400 |
| - upgrade public address system | | 100 | | | | | 100 |
| MNH/MOM - fire protection master plan | 350 | 500 | 500 | 400 | 400 | 400 | 2,200 |
| NASM - fire protection master plan | | | 125 | 100 | 100 | 100 | 425 |
| Smithsonian Institution Building - fire detection and suppression system | 150 | 150 | 150 | 150 | 150 | 150 | 750 |
| Tropical Research Institute (STRI) - BCI - fire protection | 100 | | | | | | |
| Suitland Facility - fire protection collection storage buildings | | 160 | 200 | 250 | | | 610 |
| All other projects in this category | 135 | 100 | | 150 | | 125 | 375 |
| Subtotal, Fire detection and suppression systems | 1,085 | 1,465 | 1,895 | 1,730 | 1,225 | 1,350 | 7,665 |
| <u>ACCESS FOR THE DISABLED, SAFETY AND SECURITY AND CORRECTION OF HAZARDOUS CONDITIONS</u> | | | | | | | |
| Access for the disabled - various buildings | | | 615 | 70 | 50 | 115 | 850 |
| MNH/MOM - north and south entrance modifications | | 200 | | | | | 200 |
| - replace tile floors in west court | | 135 | | | | | 135 |
| - new interior handrails | | | | 150 | | | 150 |
| NASM - emergency telephone and lighting system | 185 | | 260 | | | | 260 |
| Asbestos removal/containment | 300 | 300 | 500 | 500 | 500 | 500 | 2,300 |
| Mall security lighting | | | 200 | 200 | 200 | | 600 |
| Proprietary security system | 300 | 400 | 400 | 400 | 400 | 400 | 2,000 |
| Suitland Facility - Bldg. #10 addition, chemical cleaning | | | 150 | 400 | | 200 | 200 |
| Emergency power study | | | | 155 | 50 | 380 | 550 |
| All other projects in this category | | 130 | | | | | 715 |
| Subtotal, Access, safety and security | 785 | 1,165 | 2,125 | 1,875 | 1,200 | 1,595 | 7,960 |

RESTORATION AND RENOVATION OF BUILDINGS
PLANNED PROGRAM
FY 1984 - FY 1989

| | <u>FISCAL YEARS</u> | | | | | | <u>Total</u> FY 1985-89 |
|--|---------------------|-------------|-------------|-------------|-------------|-------------|----------------------------|
| | <u>1984</u> | <u>1985</u> | <u>1986</u> | <u>1987</u> | <u>1988</u> | <u>1989</u> | |
| <u>UTILITY SYSTEMS REPAIRS AND IMPROVEMENTS</u> | | | | | | | |
| A&I - HVAC renovation/energy conservation /1 | | | 2,100 | 2,300 | 2,500 | | 6,900 |
| - plumbing repairs | | 100 | | | | | 100 |
| - tunnel renovation | | 150 | | | | | 150 |
| AA/PG - HVAC renovation | | 400 | | | 1,200 | 4,900 | 6,500 |
| Hirshhorn - energy study and improvements | 800 | 600 | 400 | | 700 | | 1,000 |
| MAH - HVAC renovation/energy conservation | 100 | 2,450 | 1,260 | 1,000 | | | 5,410 |
| MNH/MOM - HVAC renovation/energy conservation | 250 | | 2,000 | 8,000 | 8,000 | | 26,000 |
| - tunnel renovation | | 50 | 50 | 50 | 50 | | 200 |
| NASM - energy conservation study and improvements; | | | | | | | |
| HVAC repairs | | 550 | 1,000 | | | | 1,550 |
| - replacement reheat coils | | 50 | 100 | 150 | | | 300 |
| Smithsonian Institution Building | | | | | | | |
| - electrical renovation | | 60 | 50 | 50 | 50 | 50 | 260 |
| - utility system study/implementation | | | 40 | 100 | | | 140 |
| SERC - utility system improvements | | | 30 | 30 | 30 | 30 | 120 |
| STRI - upgrading of utility systems | | | 75 | 50 | | 150 | 275 |
| Cooper-Hewitt - HVAC/electrical/plumbing repairs | | 500 | 690 | 450 | | | 1,640 |
| Whipple Observatory - communication network | | 300 | | | | | 300 |
| All other projects in this category | <u>90</u> | | 50 | 20 | | 285 | 355 |
| Subtotal, Utility systems repairs and improvements | 1,240 | 5,160 | 7,845 | 12,200 | 12,530 | 13,465 | 51,200 |

/1 Heating, ventilating and air conditioning (HVAC)

RESTORATION AND RENOVATION OF BUILDINGS
 PLANNED PROGRAM
 FY 1984 - FY 1989

| | FISCAL YEARS | | | | | Total FY 1985-89 |
|--|--------------|--------|--------|--------|--------|---------------------|
| | 1984 | 1985 | 1986 | 1987 | 1988 | |
| <u>OTHER PROJECTS</u> | | | | | | |
| AA/PG - building renovations | | | | 500 | 2,000 | 2,500 |
| A&I - space improvements | | 500 | | 500 | 500 | 2,000 |
| Anacostia Neighborhood Museum | | | | | | |
| - construct lab annex | 450 | | | | | |
| - master plan | | | | 100 | 250 | 350 |
| Cooper-Hewitt - attic space renovation | | | 2,000 | 25 | | 2,000 |
| Freer Gallery of Art - space conversion | | | 100 | 125 | | 225 |
| Hirshhorn - master plan | | | 350 | | | 350 |
| MAH - Joseph Henry Papers relocation | | | | 40 | | 40 |
| Renwick Gallery - space study | | | | | | |
| SERC | | | | | | |
| - calf barn modifications | | 200 | | | | 200 |
| - master plan | 130 | 85 | 300 | | | 385 |
| SI Libraries modifications (MNH/MOM) | 165 | 230 | 170 | 215 | | 615 |
| Smithsonian Institution Building - master plan | | | 40 | 100 | 100 | 340 |
| STRI - master planning, upgrading and additions | | 1,015 | | | | 1,015 |
| Suitland Facility | | | | | | |
| - MAH buildings | | 600 | 500 | 750 | | 2,030 |
| - NASM building | | 850 | | | | 850 |
| - collections management and storage buildings | | | | | 160 | 160 |
| - master plan | | 200 | | | | 200 |
| Whipple Observatory | | | | | | |
| - MMT support building and illuminizing shop /2 | | 260 | | | | 260 |
| - design and construction of Admin. building | | 40 | | | | 40 |
| Advanced Design and Planning | | 275 | 630 | 710 | 760 | 3,135 |
| Contingency Space Modifications | | | 500 | 500 | 500 | 2,000 |
| Day Care Center | | | | 450 | | 450 |
| Master Space Planning | | 150 | | | | 150 |
| Subtotal, Other projects | 745 | 3,705 | 5,290 | 3,915 | 4,210 | 19,570 |
| GRAND TOTAL - Restoration and Renovation of Buildings | 9,000 | 16,755 | 20,990 | 23,100 | 26,715 | 113,565 |

CONSTRUCTION AND IMPROVEMENTS
NATIONAL ZOOLOGICAL PARK

| | |
|--------------------------|-------------|
| 1983 Appropriation | \$1,550,000 |
| 1984 Estimate..... | \$3,500,000 |
| 1985 Estimate | \$4,250,000 |

This appropriation is for use at the National Zoological Park for repairs, alterations and improvements to existing facilities including exhibits; to prepare plans and specifications for construction; and to perform renovations, restorations and new construction for implementing the Master Plan approved by the Commission of Fine Arts and the National Capital Planning Commission in FY 1973. The Zoo's facilities include 168 acres in the Rock Creek Valley of Washington, D. C., and a 3,150-acre Conservation and Research Center located near 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 the proposed work. In such cases, accomplishment of the work by other means, such as the purchase of supplies, materials and equipment and/or the use of current staff or temporary labor, is the most economical alternative. Furthermore, occasionally it is necessary to fund other 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 the public" (20 U.S.C. 81). The Zoo administers two permanent facilities. Exhibition and educational functions have been centered since 1890 on 168 acres in Rock Creek Valley of Washington, D.C. Complementary animal conservation and breeding functions have been conducted since 1975 on a 3,150-acre site near Front Royal, Virginia.

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 with a cost estimate of \$118,000,000 to 30 projects and a current estimate of \$75,500,000. The Zoo is more than halfway through its construction program, a plan which will place the Park among the world's finest zoos. The total of \$37,000,000 appropriated to date has been spent on 25 new exhibits and support facilities. In FY 1983, the Zoo received \$350,000 to design the Entranceway and Olmsted Walk Exhibits. This design phase is under way and will be completed in advance of the FY 1985 Phase I construction date. Plans call for modernization of the Connecticut Avenue pedestrian and vehicle entrances; construction of a series of small animal exhibits along the Olmsted Walk and improved public grounds along the central walkway. Construction is estimated at \$4,500,000 phased over a three-year period: FY 1985 (\$2,000,000); FY 1986 (\$1,000,000); FY 1987 (\$1,500,000).

For FY 1985, an amount of \$4,250,000 is requested: to support two Master Plan projects at Rock Creek--Phase I construction for Entranceway and Olmsted Walk Exhibits (\$2,000,000) and design funds for the Health and Research Facility project (\$400,000); design funds for the Maintenance Facility (\$100,000) and Large Hoofed Stock Facility (\$200,000), both at the Conservation and Research Center; and to continue the renovation, repairs and improvements at Rock Creek (\$1,100,000) and at Front Royal (\$450,000).

Entranceway and Olmsted Walk Exhibits (\$2,000,000) - An amount of \$2,000,000 is requested for the renovation and improvement of the central pedestrian artery of the National Zoo. This project is to be designed as a three phase construction program. Pending the results of the preliminary study, it is anticipated that the first phase will improve the vehicular entrance on Connecticut Avenue to complement the historic walk-in entrance of stone pillars and wrought iron gates. In addition, special efforts will be directed to preserving the "green window" on Connecticut Avenue, by landscaping with selected plantings, enhancing the aesthetics of this area. To provide a pleasant and more accessible route through the Zoo, the walkway will be improved by tying in existing animal exhibits and features, utilizing a standard winding walkway as in the Olmsted model. Activity areas will be developed at natural gathering points along the walkway. These activity areas will provide seating, drinking fountains, concessions, public restrooms, and information areas to aid in orienting visitors to the Park. Proper surfacing materials, adequate drainage, new landscaping, including more shade trees, additional benches, and improved graphics will be used. These efforts will assist in unifying the exhibits and grounds, providing a pleasant and educational experience at the National Zoo.

Health and Research Facility (\$400,000) - Planning and design monies of \$400,000 are requested for the modernization of the Health and Research Facility. It is anticipated that this project will consist of replacing support systems including air conditioning, heating and climate control apparatus with modern equipment. These systems are over 14 years old and beyond economical repair. The hospital will be provided with a new intensive care unit and improvements will be made to the existing surgical and radiology areas. The facility also will be provided with a new incinerator to be located on the roof. These modifications will improve the ability to give clinical care to the animals and also improve the capacity of the biomedical staff to carry out their research programs.

Funds also will be used to evaluate the present research building. This structure, known as the Holt House, was erected about 1805 and, despite adequate maintenance and care, is showing signs of age and deterioration. This project will call for the restoration of the facility or replacement of the entire structure.

Conservation and Research Center's Maintenance Facility (\$100,000) - An amount of \$100,000 is requested for the planning and design of the Front Royal Maintenance Facility. This project will provide consolidation of all maintenance activities in one area, improving operations, security and accessibility. This work involves renovating and modifying a group of existing buildings to provide for the new Maintenance Facility. The area will have a separate service entrance and parking for the Center's motor pool operations. Funds for the construction of this Facility will be sought in FY 1986.

Conservation and Research Center's Large Hoofed Stock Facility (\$200,000) - An amount of \$200,000 is requested for the planning and design of the Center's Large Hoofed Stock Facility. This project will provide a modern facility to house large hoofed stock animals such as rhinoceroses and elephants for research and breeding purposes. The site chosen is suited well for this type of activity and the Facility will be designed to operate with a minimum of personnel. This Facility will enable the Zoo to pursue actively breeding programs for endangered animal groups that cannot be initiated at Rock Creek because of space requirements. Construction of this project is scheduled to begin with funds to be requested in FY 1986.

Renovation, Repairs and Improvements: Rock Creek (\$1,100,000) - An amount of \$1,100,000 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 ages and 168 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 and reconstruction. Renovation, repairs and improvements funds also are used to complete necessary repairs to mechanical, electrical, plumbing, and support systems; animal support and housing; and to pay for temporary relocation of animals during the time when repairs are being performed.

The following renovation and improvement projects are planned for FY 1985:

Renovation of hoofed stock areas - (\$300,000)

These exhibits, completed between 1964 (deer area) and 1966 (hardy and delicate hoofed stock area), over the years have become deteriorated by animal activities and climatic conditions. As a result, repairs are necessary to roofs, gutters, adjacent grounds (erosion control) and utility support systems of the various structures. Funds requested in FY 1985 for essential repair work, together with periodic maintenance, will keep this area in a proper condition for the foreseeable future.

Replace Seal/Polar Bear filter system - (\$300,000)

Since the construction of these two exhibits, intensive use has been made of the filtration system to maintain proper water quality conditions. This intensive usage has resulted in a significant degradation of the system, and present potential health risks to the animals under the Zoo's care. It therefore is necessary to replace these systems with state-of-the-art equipment which has proven to have a substantially longer life cycle than the present system.

Replace one 4160-volt main electrical feeder line - (\$250,000)

This project is required for the support of the main animal exhibition areas of the Zoo and for the safety of visitors and staff. The present plan calls for complete replacement of one feeder line which will allow for proper operation at this time. A future request will address the second feeder, to serve as a backup system.

To support general repairs and improvements - (\$250,000)

Funds will be used to support emergency repairs that cannot be planned in advance. Projects may include repairs required due to storm damage, erosion control, renovation of animal exhibits and public spaces, and minor structural repairs.

Renovation, Repairs and Improvements: Front Royal (\$450,000) - An amount of \$450,000 is requested to continue the program of renovation and repair of existing facilities at the Conservation and Research Center at Front Royal, Virginia. The Conservation and Research Center includes 89 facilities of various types containing approximately 236,000 square feet of space and 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

| | |
|-------------------------|--------------|
| 1983 Appropriation..... | \$8,450,000 |
| 1984 Estimate..... | \$9,000,000 |
| 1985 Estimate..... | \$16,755,000 |

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 well 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 Annapolis, 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 well over 100 years old.

The Smithsonian's request for \$16,755,000 in FY 1985, coupled with ongoing planning of major restoration and renovation initiatives in subsequent years, illustrates the Institution's commitment toward strengthening preventive maintenance and improvement programs to better the condition of existing facilities and to a thorough and creative process of planning for and meeting future facilities requirements. Consequently, although funds are sought in this budget to continue a wide range of essential repair, alteration and improvement projects, major emphasis will be placed in this and subsequent years on improving heating, ventilating and air conditioning systems at facilities on and off the Mall; completion of design and installation of fire detection and suppression systems; continuation of work consistent with master plans developed for off-Mall facilities; and the planning, design, renovation, and construction of facilities to meet present and future collections storage, exhibition and other programmatic needs of the Institution.

The Institution's Five-Year Prospectus identifies specific categories of work which are estimated to cost approximately \$96.8 million between FY 1985 and FY 1989 (in 1983 dollars). The FY 1985 request of \$16,755,000 represents an increase of \$7,755,000 over the FY 1984 R&R appropriation request and emphasizes the Institution's commitment to establish an adequate 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 | \$ 955,000 |
| 2. Facade, roof and terrace repairs | 4,305,000 |
| 3. Fire detection and suppression systems | 1,465,000 |
| 4. Access for the disabled, safety and security and correction of hazardous conditions | 1,165,000 |
| 5. Utility systems repairs and improvements | 5,160,000 |
| 6. Other projects | <u>3,705,000</u> |

Total \$16,755,000

GENERAL REPAIRS AND IMPROVEMENTS (\$955,000): 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 space; and repairs to facility support systems. For FY 1985, an amount of \$955,000 is requested, of which \$510,000 is designated primarily for emergency repairs, and \$140,000 is sought for minor repairs at off-Mall facilities such as plumbing, electrical, lighting and floor and wall repairs. A further sum of \$125,000 is needed for the construction of a cold room at the American History Building which will provide a proper temperature and humidity environment for costume storage; this project was designed with \$25,000 appropriated in FY 1982. An additional \$180,000 is sought for two known space improvement projects. For the Archives of American Art, located in the American Art/Portrait Gallery Building, \$100,000 is sought for the design and construction of an additional storage area. An 840 square foot area will be converted to a storage room, and plumbing and electrical services, floor and walls, fire protection, communication and heating, ventilating and air conditioning systems will be installed. For the Natural History Building, an amount of \$80,000 is needed for demolition work in Hall 16 (Whale Hall) in preparation for installation of an Introductory Hall for biological sciences and for rehabilitation of Hall 16's skylight. The demolition work will consist of removing exhibit cases, walls, a balcony and three sets of stairs and opening three bays for future access to adjacent halls.

FACADE, ROOF AND TERRACE REPAIRS (\$4,305,000): 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 watertight and weather tight 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 routine maintenance and repair program.

Examples of projects that have been completed recently include the designs of the American History Building roof replacement and the Air Space Building facade repairs; roof repairs at various buildings at the Suitland, Maryland facility; and the American Art/Portrait Gallery Building facade study. Projects that are in progress include facade renovations at the Arts and Industries and Renwick Gallery Buildings; and cleaning of the Hirshhorn Building and Cooper-Hewitt's Mansion facades.

Excellent progress now is being made in the renovation of the facade of the 120 year old Renwick Gallery Building. The Institution has proceeded carefully on this renovation project in order to assure that the eventual repairs will provide a permanent solution to the problem while maintaining sensitivity to the building's status as a National Historic Landmark. An amount of \$3.65 million has been appropriated to date and amount of \$1.8 million in the FY 1984 request will complete this project. The renovation is in the last construction phase which consists of precasting in concrete the building parts that are to be replaced, removing the deteriorated stone facade, replacing windows and installing the precast concrete building parts.

An amount of \$2.5 million is requested for FY 1985 to continue the multiyear renovation of the roof and exterior of the historic Arts and Industries Building in order to assure watertightness, energy efficiency and the protection of work already accomplished. 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 roof of the courts, four halls and rotunda; repairing rotunda and hall windows; replacing some gutters and downspouts; selected repainting in the most deteriorated areas; and other related repairs. With the \$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. The final design effort has been completed. Funds of \$3.93 million appropriated since FY 1981 are being used to continue the exterior restoration on a quadrant-by-quadrant basis. Funds appropriated since FY 1982 were used to restore the northwest quadrant, the west facade and the southeast quadrant. The sum of \$2.5 million in the FY 1984 request will be used to restore the northeast quadrant facade and the north towers. An amount of \$2.5 million is requested in FY 1985 to replace the northeast quadrant and range roofs, north entry and tower roofs and the southwest pavilion roofs. Funds also will be used to restore the northeast range facade, the north entry facade and the southwest facade. 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 hoods 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 of fire exit windows; reconstruction, cleaning and repointing of exterior masonry; the removal of nonoriginal equipment located on the facade of the building, such as window air conditioning units, exhaust fans and steam pipes; and the restoration of some of the building's original elements, such as lighting standards at the entrances, cast iron gates and ornamental metal. The total project cost is estimated to be \$11.9 million; the balance of \$1.5 million is expected to be sought in FY 1986 to complete the project.

To complete the roof repairs at the American History Building, an amount of \$710,000 is requested for the replacement of the fifth floor and penthouse roofs. With funds of \$500,000 requested for FY 1984, replacement of the fourth floor roof will begin in the spring of 1984.

An amount of \$540,000 is sought to caulk and repoint the Natural History Building's facade. The main building's facade will be repointed and the entire building will be caulked including all the joints at the perimeter of windows and doors, construction and expansion joints and at other joints required to be watertight.

At the Freer Gallery Building, an important part of the roof system is the skylights. These skylights account for about 35 percent of the total roof area. An amount of \$265,000 is requested to repair the skylights to eliminate water intrusion. Repairs include removing glazing; cleaning glass edges and frames; sealing glass perimeters; replacing broken glass; and cleaning or replacing gutters.

The marble facade at the American Art/Portrait Gallery Building is deteriorating. With funds of \$10,000 appropriated in FY 1982, a study was conducted to determine the cause and recommend a program to arrest the deterioration. A test was applied to a marble area and monitored for one year. Based on the test results, an amount of \$150,000 is needed in FY 1985 to initiate the first phase of this work and an amount of \$180,000 is expected to be sought in FY 1986 to complete this renovation project.

An amount of \$140,000 is requested in FY 1985 for two additional projects. For the Smithsonian Environmental Research Center, an amount of \$90,000 is needed to replace the roofs on the Old Dominion Building and Laboratory Wing; and for the Smithsonian Institution Building, \$50,000 is sought to conduct a study and to replace with sandstone, already salvaged by the Institution, several deteriorated and damaged areas of the facade.

FIRE DETECTION AND SUPPRESSION SYSTEMS (\$1,465,000): The Institution is continuing to upgrade fire protection systems in all buildings in order to provide a level of safety consistent with today's standards and technology. Work in this category includes the installation of heat and smoke detection systems; sprinkler and chemical suppression systems; fire doors and walls; and the improvement of exit capability, particularly in older buildings. Improved systems are installed as exhibitions are changed.

The Natural History and American History Buildings represent the largest areas with the least protection, and efforts are being made to correct major safety deficiencies in these buildings. A fire protection master plan for the Natural History Building was developed in FY 1979, and steady progress has been made since then in carrying out the plan.

With funds appropriated in FY 1979 through FY 1983 (\$1,725,000), construction has been completed on the sprinkler and smoke detection systems for the Natural History Building's west wing; the master fire control panel; and the installation of water supply risers, alarm conduit and wiring required for the east wing. Construction has begun on the installation of the east wing sprinkler and smoke detection systems; sprinklers and smoke detectors in the ground floor and part of the third floor in the main building; and detectors in the west court. Funds sought in FY 1984 (\$350,000) will be used to install sprinkler systems in the third and fourth (attic) floors of the original building; and to install sprinkler and smoke detection systems in Exhibit Hall Five "Fossil Mammals." An amount of \$500,000 is requested in FY 1985 to complete installation of smoke detection and sprinkler systems in all remaining unprotected areas of the third floor of the original building and Exhibit Hall Five; to provide emergency public exits from the original building to the east and west wings; to provide fire separation zones between the original building and the east and west wings, and between the original building and the three-story West Court addition; to provide emergency lighting for major exhibit halls, mechanical rooms and the Baird Auditorium; to improve fire protection for woodworking and flammable storage rooms; to provide safe flammable liquid storage areas in the east and west wings; and to install a fire alarm printer in the Security Office. It is expected that an amount of approximately \$1.7 million will be required through FY 1989 to continue the fire protection master plan work in the Natural History Building.

A fire protection master plan for the American History Building has been completed. This plan 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 system; 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 \$915,000 appropriated between FY 1980 and FY 1983, the fire protection master plan was completed; fire door separations were designed for the first floor; a new ten-inch water main from the street to the building and main

sprinkler risers throughout the building; were designed and installed; electrical trunk lines for smoke detection systems and sprinkler annunciation alarms were designed and installed. Funds requested in FY 1984 (\$350,000) will be used to provide additional automatic sprinkler and smoke detection systems throughout two-thirds of the basement level. For FY 1985, an amount of \$200,000 is needed to continue installation of sprinklers and smoke detection systems in the basement and to begin installation of fire protection systems on the fourth floor. It is expected that an amount of approximately \$4.3 million will be required to complete the fire protection work in the American History Building.

An amount of \$100,000 also is requested to upgrade the public address system at the American History Building as a part of the fire protection master plan. The existing public address system will be improved by installing speakers throughout the building to provide one-way voice communication between each fire safety zone and the central public control console in the Security Office. Individual evacuation control will be extended to each fire zone.

An amount of \$180,000 is sought to continue the installation of a wet pipe sprinkler system at the American Art/Portrait Gallery Building initiated with \$65,000 appropriated in FY 1983. The sprinkler system will be extended to the first floor lecture and assembly halls and cafeteria; to the second floor photo laboratory and conservation storage areas; to third floor mezzanine mechanical equipment rooms; and to fourth floor equipment rooms. A sum of \$120,000 to be sought in FY 1986 will complete this project.

In FY 1985, the National Museum of American History's collections Storage Building 19 at the Suitland Facility, is scheduled to be upgraded to allow for receiving, processing and storage of artifacts. An amount of \$160,000 is needed in FY 1985 to install fire protection systems. This work will include installation of smoke detection and wet pipe sprinkler systems throughout the building's storage and work areas for the protection of the collections and the staff.

Funding of \$150,000 is requested in FY 1985 to complete installation of smoke detection systems and to continue other fire protection projects at the Smithsonian Institution Building, such as installing sprinkler systems in the basement. Sprinkler systems, smoke detectors and fire-rated partitions also will be installed throughout the building. With \$145,000 appropriated in FY 1983, smoke detection systems were designed and installed. Smoke detector and sprinkler systems will continue to be installed with funds of \$150,000 requested for FY 1984. An amount of \$600,000 is expected to be sought through FY 1989 to continue the project.

An additional amount of \$175,000 is requested in FY 1985 for three fire protection projects. For the Renwick Gallery, \$80,000 is sought to install wet pipe sprinkler and alarm systems in the basement area; for the Air and Space Building, \$20,000 is needed to install a wet pipe sprinkler system above the kitchen area which has been determined to be a fire hazard; and for the Arts and Industries Building, an amount of \$75,000 is requested to continue the fire protection measures initiated with funds appropriated in FY 1982 (\$75,000) and in FY 1983 (\$75,000). Smoke detection systems will be installed in the four major exhibit halls. An amount of \$325,000 is expected to be required through FY 1989 to continue the project.

ACCESS FOR THE DISABLED, SAFETY AND SECURITY AND CORRECTION OF HAZARDOUS CONDITIONS (\$1,165,000): Legislated requirements to assure the accessibility of facilities to all persons are being met in new exhibits and construction projects. Although many facilities still require modifications to meet current standards,

significant progress has been made in eliminating architectural barriers. Examples of recent accomplishments include removal of asbestos from areas in the American Art/Portrait Gallery, American History and Natural History Buildings; rest room modifications at the American History and Natural History Buildings; and safety improvements to one of the National Museum of American History's storage buildings at the Suitland Facility.

The safety and security of collections, visitors and staff also necessitate facilities modifications. 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 the American Art/Portrait Gallery Building; the American History Building; the Natural History Building; the Arts and Industries Building; and in a number of buildings at the Suitland Facility. Additional areas contain asbestos, primarily the mechanical equipment rooms in several other buildings. Funds of \$850,000 appropriated for this purpose in FY 1981 through FY 1983 were applied toward the containment and removal of asbestos in the attics, mechanical equipment rooms, skylight areas and exhibit halls of the American Art/Portrait Gallery Building; in the carpentry shop in the Natural History Building; in the television studio and some basement areas in the American History Building; and in other areas throughout the American History Building with funds of \$300,000 requested in FY 1984. A further amount of \$300,000 is sought for two projects in FY 1985 to continue this program. For the American History Building, \$200,000 is requested to complete asbestos removal in the basement and fourth floor mechanical rooms; and \$100,000 is needed for asbestos abatement of the National Museum of American History's Storage Building 19 at the Suitland Facility.

Another major project planned during the next decade is the conversion to an electronic security and fire alarm system that is owned and operated by the Smithsonian. The purposes of converting to a proprietary security system are to gain faster response times to security and fire protection alarms; to improve the quality and control of information transmitted from the security devices and fire sensors to the building security offices and the central control room; and to eliminate reliance on leased equipment, outside sources of power and related contractual services, the costs for which are escalating rapidly. Construction will involve modifying eight building security offices in the Washington, D.C. area to accommodate the installation of new equipment to be purchased by the Smithsonian (mini-computers, data panels, etc.); rewiring all alarms; and installing underground cables to provide for a communications system. All work during the changeover from non-Smithsonian equipment will be accomplished in a manner that allows for uninterrupted electronic security service. Current cost estimates for FY 1982 through FY 1989 for the R&R portion of the phased conversion total approximately \$2.9 million. Funds appropriated in FY 1982 (\$300,000) and FY 1983 (\$300,000) were used to purchase permanently installed equipment, including communications processors and printers, for the central control room in the Smithsonian Institution Building. This equipment will be connected to the control room at the Museum Support Center. Funds of \$300,000 requested in FY 1984 will be used to begin procurement of similar equipment for the American History Building's security system and modifications needed to connect the central control room to the American History Building security system. A further amount of \$400,000 is requested in FY 1985 for the modifications needed for the installation of security equipment at the Natural History, Freer Gallery, Smithsonian Institution, and Arts and Industries Buildings. (Funding of \$440,000 for the proprietary security system also is included in the Salaries and Expenses base of the Office of Protection Services for the purchase of security devices and fire protection sensors that are associated with the system. The Restoration and Renovation of Buildings account is being used to fund building modifications and permanently installed equipment.)

During FY 1980, the north and south entrances at the Natural History Building were modified to improve access and to increase emergency exit capabilities. An amount of \$200,000 is sought for the Natural History Building to complete the north and south entrances and Mall entrance gate modifications to meet safety and security requirements. These will include renovating the west corridor to the Learning Center; repairing, cleaning and finishing all bronze surfaces at north and south entrances; installing and finishing new bronze railings; and automating the east exterior entrance doors.

Also, for the Natural History Building, an amount of \$135,000 is requested to replace the Mexican tile in the service area. These are natural, unbaked clay tiles and are susceptible to breaking and spalling, creating a maintenance problem and safety hazard. The entire floor will be replaced by a more durable tile able to withstand the heavy traffic in this area and provide safe access to the cafeteria.

An additional amount of \$130,000 is requested for three security projects. For the Suitland Facility, \$60,000 is needed for the installation of emergency generators. Commercial power outages at the Suitland Facility result in damage to plumbing; loss of heating, air conditioning and humidity controls in collection storage areas which require stable environmental conditions; and interruptions to security and fire systems. Every building at the Facility is subject to one or more of these problems when a power outage occurs. The emergency generators will improve electrical service reliability. For the American Art/Portrait Gallery Building, \$50,000 is requested to upgrade the present exterior security lighting systems. This work will include replacement of existing and installation of additional lighting fixtures, and installation of a lighting control panel which will enable security personnel to control exterior lights. For the Renwick Gallery Building, \$20,000 is requested to wire the windows for a security system. As part of the facade restoration, new windows are being installed. Conduit and wiring will be installed for an impact-sensing security system, and for necessary connections to the control and monitoring panel located at the security office.

UTILITY SYSTEMS REPAIRS AND IMPROVEMENTS (\$5,160,000): Funds appropriated in this category are used to maintain, repair and upgrade the heating, ventilating and air conditioning systems (HVAC) and plumbing and electrical systems in the Institution's facilities. Proper maintenance and improvements of these systems are essential for increasing energy efficiency and for providing stable temperature and humidity conditions necessary for the preservation of the collections. Scheduled repairs and replacements of deteriorated equipment components require a consistent level of funding, and major renovations and repairs are required in many Smithsonian buildings where utility systems were not designed with the aid of today's energy saving technologies.

The Institution is making a concerted effort to conserve energy (see the Uncontrollables section for a description of these efforts). The most significant energy savings, however, will be realized by the application of substantial resources in this account toward upgrading HVAC systems, replacing obsolete equipment and improving the efficiency of environmental zones. HVAC systems have been modified over the years as the Institution's programs have grown, as the functions of the buildings have changed and as the environmental needs of the collections have become understood better. 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 environment requirements in an energy efficient manner.

Comprehensive HVAC studies and energy audits have been conducted for most of the buildings in order to begin planning for improvements to be completed in future years. 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 component equipment as air handling units, chillers, condensers, compressors, cooling towers, automatic temperature and humidity controls, pumps, pipes, fans, filters, ductwork and related electrical and plumbing systems. At the same time, energy audits 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, etc.). 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 the recommended energy conservation measures.

For FY 1985, an amount of \$5.16 million is sought to continue work on HVAC renovation projects begun in FY 1981 and to initiate new projects.

At the American History Building, a comprehensive HVAC study initiated using \$100,000 appropriated in FY 1981 was completed in 1982. Additional monies appropriated in this category between FY 1981 and FY 1983 (\$1,035,000) were used to replace 12 deteriorated air handling units in 1983. In FY 1984, \$250,000 was requested to continue HVAC renovation with the replacement of the cooling tower in the spring of 1984. For FY 1985, an amount of \$2.45 million is requested for the preparation of drawings and specifications for the first phase based on the study findings and to begin implementation of the design. Difficulty in maintaining necessary environmental conditions is due, in part, to the age and construction of the building and the age and design of the HVAC system and its controls. The electronic temperature controls already have exceeded their normal useful life expectancies. The study findings indicate upgrading of the mechanical system is necessary to bring the existing HVAC system up to acceptable standards of operating efficiency and reliability. An amount of \$2.96 million is expected to be sought through FY 1988 to complete this project.

The HVAC system in the American Art/Portrait Gallery Building also is being upgraded. Improvements include a new system of automatic temperature and humidity controls; the replacement of obsolete chillers and associated pumps, pipes and controls; balancing of the air and water systems, including new dampers and valves; modifications to the return air system; and all related electrical and plumbing work. The scope of the design also includes repairing and recaulking the building's existing windows and adding storm windows and solar film. The first construction phase was initiated with funds appropriated in FY 1982 (\$225,000) and FY 1983 (\$700,000). Funds of \$800,000 have been requested in FY 1984 and an amount of \$400,000 is requested for FY 1985 to continue this HVAC work. Additional funds of \$6.1 million are expected to be sought through FY 1989 to continue the construction.

At the Air and Space Building, an environmental control and energy conservation study was completed in 1982. Based on the study findings, modifications to HVAC equipment and systems are needed to improve environmental conditions. Other projects proposed include lighting level and control improvements, refinishing existing air

handling unit components, and replacing or modifying eliminators. An amount of \$550,000 is requested to initiate these HVAC modifications. A further amount of \$1.0 million is expected to be sought in FY 1986 to complete this project.

At the Hirshhorn Building, an HVAC study was completed in 1982 using funds of \$100,000 appropriated in FY 1982. An amount of \$600,000 is requested in FY 1985 to initiate energy conservation measures. Modifications of HVAC equipment and other systems will be made to improve environmental conditions and reduce energy consumption. These include improvements to HVAC controls, the air distribution system, the chilled water equipment and system, wall insulation and vapor barriers, and provisions for a gas-fired boiler. A further amount of \$400,000 is expected to be sought in FY 1986 to complete the project.

An additional amount of \$300,000 is sought to construct a communication system consisting of: two microwave links connecting, Amado, Arizona, to the Mt. Hopkins Summit and the Summit to Tucson, Arizona; and private phone systems in Amado, on the mountain and in Tucson. Due to the geographical location of the Whipple Observatory, improved communications are critical to its efficient operation. Changes in astronomical data collection techniques, travel costs and government deregulation of the communication industry caused a reexamination of the Observatory's present communication system. As a result, it has been determined that a new communication system will be more cost effective and enhance the use of the telescopes. The Observatory has pioneered a system of remote observing where the data are taken by a resident technician, using computers, for the astronomers. This system is viable scientifically only so long as the astronomers can spot check the data frequently as it is taken by computers and transmitted between the computer and astronomers. The slow rate at which the Observatory now can transmit spot check data over the existing phone lines is the major problem. The proposed system will increase the rate of transmission by a factor of 100 and will make remote observing more effective. For the astronomers in Tucson, the final data will be available immediately for reduction. The new communication link will interconnect the Observatory's computers which will increase operation efficiency, reduce travel costs and time, and allow for long distance trouble shooting of equipment problems.

For the Arts and Industries Building, an amount of \$150,000 is requested in FY 1985 for a study and design of the trench system renovation. Covered trenches in the basement house steam, condensate and rain water piping. Existing piping and insulation have outlived their life expectancy and have deteriorated beyond repair and steam is leaking in some places. Also, the location and size of the trench system make repairs extremely difficult and in some areas inaccessible. An amount of \$600,000 is expected to be sought through FY 1987 for this project.

A comprehensive HVAC study completed for the Cooper-Hewitt Museum was initiated with funds appropriated in FY 1982. An amount of \$500,000 is sought in FY 1985 to design and to begin implementation of the study findings. Major components of the HVAC system will be replaced in order to maintain proper environmental conditions for the collections. Other projects include construction of a new entrance vestibule; replacing deteriorated windows and frames; weather stripping exterior doors; and improvements to the air distribution system, chiller-cooling tower, and temperature control system. An additional amount of \$1.14 million through FY 1987 will be requested for this project.

An amount of \$60,000 is sought in FY 1985 for the Smithsonian Institution Building to replace the electrical wiring on the first floor west section and the

Flag Tower. With funds of \$110,000 appropriated in FY 1982, 84 major wiring renovations were made on all floors of the east section. A further amount of \$200,000 is expected to be sought through FY 1988 to continue upgrading and expanding electrical wiring and conduit systems.

An additional amount of \$150,000 is sought for two utility projects. For the Arts and Industries Building, \$100,000 is requested to renovate the public and staff rest rooms on the ground floor permitting better maintenance and operation of these facilities. Currently, the plumbing fixtures are outmoded and difficult and costly to maintain. Also, the piping is deteriorating and in need of replacement. For the Air and Space Building, \$50,000 is requested to begin replacement of 50 reheat coils as a part of a preventive maintenance plan and a further amount of \$250,000 will be sought through FY 1987 to complete this project.

OTHER PROJECTS (\$3,705,000): Projects in this category support the maintenance and development of the Institution's outlying facilities and other projects designed to meet programmatic objectives in the areas of research, collections management and education. Recent accomplishments in this category include the following: completion of the Whipple Observatory's road safety improvements; construction of the Smithsonian Tropical Research Institute's (STRI) library at Tivoli; and renovation of STRI's Building 359 at Naos Island in Panama.

-- Suitland Facility - \$1,650,000

An amount of \$850,000 is requested in FY 1985 to construct a new 20,000 square-foot metal prefabricated aircraft storage building for the National Air and Space Museum (NASM). The building's primary use will be for storage of 40 aircraft with maximum use of space being achieved by suspending the aircraft from the frame, as well as by floor display. It also will serve as a display area. At the present rate of aircraft acquisition, NASM soon will be without indoor storage space and acquisitions may have to stop.

For the National Museum of American History, an amount of \$600,000 is requested for the design and renovation of storage building 19. Improvements will include upgrading temperature and humidity controls to provide the proper environment for storage of collections; special lighting for large object conservation; space modifications for an object processing laboratory; administrative and storage areas; and special conservation furnishings and equipment.

The Suitland Facility has grown over the years. It is a collection of prefabricated (Butler) buildings which house storage and conservation functions of some of the Mall museums--the National Museum of American History, the National Museum of Natural History/Museum of Man and the National Air and Space Museum. Increasing utility needs, new space requirements and problems with surface drainage indicate the need for a plan for growth. An amount of \$200,000 is requested for FY 1985 to develop a master plan for future development which will include surveys of existing conditions, projected program requirements for the Facility and the impact of the Museum Support Center.

-- Smithsonian Tropical Research Institute - (\$1,015,000)

An amount of \$895,000 is requested for the design and construction of a new dormitory on Barro Colorado Island in Panama. Research work at the Island requires constant monitoring of projects so staff must remain on the Island for extended periods of time. The 30-room dormitory will be constructed entirely of concrete which will eliminate dry rot and termite problems that continually damage the wood buildings on the Island. It will house 60 people and will have a solar hot water heating system.

An amount of \$120,000 also is needed to continue the development of a master plan for the Smithsonian Tropical Research Institute (STRI) in Panama initiated with funds appropriated in FY 1981 (\$25,000) and in FY 1982 (\$50,000). STRI is custodian of a principal tropical site used for conducting basic biological research. Tropical wilderness areas are diminishing rapidly and high priority must be given to the development of a modern and efficient system of laboratories and support facilities needed for this basic research. The master plan will develop requirements for the physical planning of facilities that will fulfill STRI's present and future programmatic requirements. It will provide guidance for future program development and comprehensive development plans for the physical plant. It also will comply with regulatory bodies as required by both national and international agreements.

-- Smithsonian Astrophysical Observatory, Whipple Observatory - (\$300,000)

An amount of \$40,000 is requested for the design of an Administration Building for the Whipple Observatory. The building will replace an existing leased facility, a 50-year-old schoolhouse which lacks adequate space and basic requirements, such as sufficient electrical power and insulation. The 4,800 square foot Administration Building located near the town of Amado will be the center of activity for an Observatory base camp. It will house all of the administrative offices and will include common areas, such as library and conference room, lunch room and bunk room for both the Observatory and Multiple Mirror Telescope (MMT).

An amount of \$260,000 is requested for the construction of a new 1,500 square foot concrete block support building for the MMT and for space modifications inside the existing MMT building to accommodate an aluminizing shop. Currently, the support shop is located inside the MMT and the space is inadequate for efficient operations. The construction of a new MMT support building will consolidate support operations in one building and free up space suitable for the aluminizing shop. The support building will contain areas for instrument storage; shop and maintenance supply storage; maintenance personnel offices; an uninterrupted power source for all MMT computers; and switchgear. The aluminizing process is done annually for all telescopes at the Whipple Observatory to maintain the high reflective surfaces needed. Currently, mirrors requiring aluminizing must be transported at great risk from the mountain to a facility in Tucson, Arizona. The aluminizing shop will eliminate transportation risk and loss of staff time arranging the transportation of the mirrors.

-- Advanced Planning and Design Funds - (\$275,000) - An amount of \$275,000 is requested for both advanced planning (\$150,000) and advanced design (\$125,000) for projects in all of the subaccounts within the Restoration and Renovation Buildings (R&R) account. For the majority of the R&R projects, particularly projects which are not phased and require only one year 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 12 months to complete depending upon the project's complexity. Construction costs escalate at a rate of one-half percent a 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.

-- Master Space Utilization Plan (\$150,000) - Over the next five years, the Institution will be experiencing a number of program and space readjustments. Upon completion of the Quadrangle, areas within the Arts and Industries Building will be vacated. With the opening of the Museum Support Center and the transfer of collections, large storage areas throughout the Institution will be emptied. As a result

of the interior and exterior renovation of the Arts and Industries Building, office areas will be converted to exhibition space--the original purpose of the building. Escalating costs experienced for leased space have caused the Institution to reexamine its space rental program. An amount of \$150,000 is requested to contract for the services of an architect/engineering firm to study and develop a master space plan.

-- Smithsonian Institution Libraries - Space Modifications (\$230,000) - With funds of \$200,000 appropriated in FY 1980, the first renovation phase was completed for the space modifications of the Smithsonian Institution Libraries located in the Natural History Building. With funds of \$165,000 requested in FY 1984, the Reader Services area will be renovated. For FY 1985, an amount of \$230,000 is requested to continue modifications to the Smithsonian Institution Libraries areas. These include: modifications required to accommodate planned expansion of automated bibliographic control activities; space alterations necessary to improve workflow and overall operational efficiency through physical realignment of spaces occupied by closely related Libraries support functions; installation of fire detection and suppression systems; and essential lighting improvements in several areas.

-- Smithsonian Environmental Research Center - Master Plan (\$85,000) - For the Smithsonian Environmental Research Center (SERC) in FY 1985, an amount of \$85,000 is needed to complete the development of a master plan to be initiated with funds of \$130,000 requested in FY 1984. SERC was created in July 1983 with the merger of two science bureaus: the Radiation Biology Laboratory (RBL) and the Chesapeake Bay Center for Environmental Studies (CBCES). The RBL presently occupies leased facilities in Rockville, Maryland, and prior to its lease expiration in 1990, the two bureaus will be integrated at the Chesapeake Bay site. The integration of the programs for RBL and CBCES will be strengthened as facility and site improvements are phased-in prior to 1990. A major goal of the master plan will be the integration of RBL's and CBCES' research and administrative operations. The master plan will address existing facilities and recommend plans for physical plant development to meet the short- and long-term goals of SERC. Upon completion of the master plan, the Institution will be able to develop detailed designs for specific buildings, site improvements and utility systems.

CONSTRUCTION: GENERAL POST OFFICE BUILDING

1985 Estimate.....\$3,500,000

The General Post Office Building (the fifth oldest Federal building in Washington, D.C.) would be used for expanded public activities of the National Museum of American Art, the National Portrait Gallery, and the Archives of American Art now housed in the Patent Office Building. It offers space for a wide range of public museum activities such as exhibitions, the study of collections, classes and seminars. An auditorium for lectures, films, and other purposes, urgently needed by the programs in the Patent Office Building, can be created in the General Post Office Building. Conversion of the building to public use, including weekend and evening education activity, also would add significantly to the emerging cultural and educational corridor along 7th Street that has been encouraged by the program of the Pennsylvania Avenue Development Corporation. The firm of E. Verner Johnson and Associates has been selected to develop a specific program of use for the building and to assess the positive effect this building would have on the use of space in the Patent Office Building itself. A preliminary report by this firm is expected in September 1983.

Since 1958, when the Institution acquired the Patent Office Building, there has been interest in obtaining the General Post Office Building, which is immediately across F Street and further bounded by 7th, 8th, and E Streets in northwest Washington, D.C. Both buildings are the work of America's first native-born professional architect, Robert Mills of South Carolina, who also designed the Washington Monument and the Treasury Building. From time to time since the early 1960s, the Smithsonian has reiterated its interest in the building to the General Services Administration (GSA).

On May 24, 1983, the Senate Committee on Environment and Public Works, which has oversight responsibility for GSA, heard testimony from the Smithsonian and the United States International Trade Commission (principal occupant for the past 60 years of the building) on the respective agencies' interests in the building. It seems clear that while the Commission would like to remain in the building because of its convenience and historical association, the Commission is very concerned that long-overdue major repairs be made, and it recognizes that the building is too small to meet all of its needs (about 15 percent of present staff is housed elsewhere). On June 23 the Committee recommended and on June 29 the Senate passed S. 1287, the FY 1984 General Services Administration authorization, which contains an amendment directing the Administrator to transfer the building to the Smithsonian without reimbursement, contingent on GSA securing suitable quality space for the Commission's relocation. Action on the transfer is anticipated in the House during the fall of 1983.

Funds presently estimated in the amount \$35 million will be required for architectural/engineering and construction services to renovate and repair the building for public use. Preserving the historic nature of the building and converting it to public purposes will require a comprehensive program that must meet the special requirements of the museums for fire protection and constant temperature and relative humidity in order to preserve the collections with which they are entrusted, while also providing for the safety and accommodation of visitors. Elements of such a program would include replacing the existing roof; restoring all the of the original interior and exterior architectural finishes; replacing the windows with double

glazing; modernizing all electrical and plumbing systems; providing new insulation, a vapor barrier, and a heating and air conditioning system with industrial controls; replacing existing florescent lighting with fixtures reminiscent of the period in which the building was constructed; and installing smoke detection and sprinkler systems along with other security equipment. The FY 1985 request of \$3.5 million will enable planning and design implementation, with the balance of \$31.5 million for construction to be requested in FY 1986.

F I N I S

SMITHSONIAN INSTITUTION LIBRARIES



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