# SMITHSONIAN INSTITUTION 

FIVE-YEAR PROSPECTUS
FY 1986 - FY 1990


SEPTEMBER 17, 1984
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# SMITHSONIAN INSTITUTION FIVE-YEAR PROSPECTUS <br> FY 1986 - 1990 <br> INTRODUCTION 

James Smithson bequeathed the whole of his property "to the United States of America, to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men." In doing so, he created a charitable trust, through the terms of which the United States would serve as trustees for purposes directed toward the benefit of all mankind. By the Act of July 1, 1836, Congress accepted Smithson's bequest, and pledged the "faith of the United States" to carry out its purposes. In the Act of August 10, 1846. Congress established the Institution in its present form and placed responsibilities for management with a Board of Regents.

The Smithsonian is a unique establishment which is both privately endowed and publicly supported, and whose management is vested in an independent board composed of ex officio federal officials as well as private citizens. This arrangement has made possible the remarkable growth and achievements of the Institution during the thirteen years of its existence. Donations from both the public and private sector have increased its collections and continuing additions to its trust funds have expanded and nourished the Institution's usefulness. Appropriations recommended by successive Administrations and approved by successive Congresses have provided steadily increasing federal support for many of the Smithsonian's farreaching services to the public. Through the development of the Smithsonian Associates program, the Institution now has a nationwide group of interested supporters who sponsor many of its educational activities across the country, and annually thousands of service hours are provided to the Institution by dedicated volunteers.

The Smithsonian Institution's programs are devoted to public education, research, and service in the arts, sciences, and history. Centered on the Mall in Washington, D.C., the Institution also operates major facilities and activities elsewhere in Washington, across the country, and overseas. It is one of the world's leading research centers and encompasses the world's largest museum complex. Smithsonian collections contain more than $100,000,000$ art objects, natural history specimens, and artifacts, a figure based on a recently completed inventory generously supported by Congress. The collections are displayed for the enjoyment and education of visitors and are utilized for research by staff of the Institution and by hundreds of visiting students, scientists, and historians each year. The management, care, and security of its collections, and a program of selective acquisition for the collections are basic institutional commitments.

In addition to museum curation and exhibition, the Smithsonian conducts a wide range of other programs in order to carry out its broad goal of increasing and diffusing knowledge about Man, his culture, and his environment. Some of these are joint ventures in cooperation with other institutions, universities, and government agencies in the United States and on
every continent. As an outgrowth of basic scientific research, fundamental data are assembled for use by planners and research workers in other organizations, both government and private. Much of this activity fosters conservation, and can be expected to lead to results that are directly applicable to national needs and goals. Historical research, which enhances knowledge of this nation's growth through studies of technological development, art, and folklife and folklore traditions, also is a major endeavor.

The results of the Institution's research are disseminated to a wide audience through books, monographs, exhibit catalogues, and education pamphlets. Public-oriented programs include exhibits, performances, radio, television, and Smithsonian magazine. In addition to the approximately $25,000,000$ visitors annually who visit the Institution's museums, galleries and zoological park, many millions more view Smithsonian traveling exhibitions, which appear throughout the United States and abroad, and the Institution's annual folklife festival.

In the fall of 1977, the Regents and the Secretary established a fiveyear forward planning process covering all activities of the Institution. This process has proven to be a useful mechanism for management to examine development alternatives and to communicate important results and information to the Institution's Congressional authorizing and appropriations committees, and to other interested constituents. The Five-Year Prospectus, FY 1986-FY 1990 is the seventh in a series of documents resulting from that action.

The process is an annual one and involves the preparation of plans and resource projections by each of the Smithsonian's organizations. The review of these materials by appropriate executive staff members occurs throughout the spring and summer months simultaneously with the assembly of the federal and trust budgets for the forthcoming fiscal year. A draft Prospectus is prepared and submitted to the Regents for initial consideration in September of each year. Following the Regent's approval of the forthcoming budgets in September, and the review in November by the Office of Management and Budget of the Institution's federal budget request, the Prospectus is adjusted and prepared for approval by the Regents at their January meeting. If approved, it is distributed to the Institution's various Congressional committees at about the same time as the request for Congressional appropriations.

The Prospectus represents a summary of the areas that will be given priority and emphasis over the next five years and contains a chapter which describes some of the Institution's longer-range facility and operating objectives, projecting various activities ahead to about FY 2000. The Prospectus should be read in conjunction with another publication, the Smithsonian Institution's Programs and Activities (January 1984), which provides background information on the programs of each of the Institution's operating activities. The content presented here is arranged by the major organization grouping of the Institution and corresponds to the assembly of the FY 1986 budget being presented to the Congress; i.e., Science, History and Art, Public Service, and Museum Programs, with separate sections treating Special Programs, Associate Programs, Business Management Activities, and administrative and facilities development plans. Detailed projections and brief descriptions for the bureaus and offices appear in Appendix I.

Several items discussed in the text, along with the financial figures for FY 1986, complement the Institution's budget submission to the Office of Management and Budget, and also appear in that document.

The Prospectus reflects needs and opportunities that the Smithsonian has described before. It emphasizes selected aspects of the Institution's work while assuring that others will continue at approximately the present level of activity. Areas of emphasis include collections management, security of collections and other property, automation of records and systems where possible, basic research, exhibition programs, administrative and technical support, the maintenance of current facilities, the completion of most work for the Zoological Park at Rock Creek, the successful establishment of Quadrangle facilities including equipment and operating resources, and the restoration and preservation of landmark facilities such as the General Post Office Building. Also, funds supporting activities in celebration of the Bicentennial of the Constitution and strengthening of Native American Programs are incorporated for future years. The Museum Support Center at Suitland continues to need appropriate operating and equipment purchase resources for the activities to be housed there.

In addition, through its trust operations, the Institution will continue to concentrate on ways to develop quality educational products for the visiting public and Associate programs, sustain growth in endowment reserves, supplement important programs such as collections acquisitions, special exhibitions, fellowships, tours, selected research investigations, conferences, and symposia of timely importance. Unrestricted trust funds and private donations are being used to cover one-half the construction costs of the Quadrangle, and a special reserve has been established to help defray costs associated with selected plant or facility projects.

In a significant way, through the budget process, the Institution has redirected current federal resources to meet high priority needs and has applied unrestricted trust fund income as self-help contributions to maintain the administrative support balance and to strengthen programs of acquisition, research, exhibition, and education. Such efforts will continue to the best of the Institution's ability given the pressures at work on the federal budget to reduce spending while public use of our services remains strong, and given the uncertainty surrounding the continued availability of unrestricted trust income from auxiliary and other activities. Although the present revenues are encouraging, the Institution's management feels only guardedly optimistic about any five-year projection of such income. The public acceptance of the Institution's products or services, such as those performed by the National Associates, is speculative. It is possible, for example, that in the next five years the Magazine which is the most popular of the Associates' activities, may suffer a relative decline. Similarly, purchases in the Institution's shops, sales of books or records, or the sale of other products issued as services through the Associates' activities may decline. As with any such projections, therefore, it seems imperative that appropriate safeguards should be taken against the assumption that the expansion of these activities will continue in an unbroken progressive curve.

The Institution will continue to pursue the following principal objectives over the next five years.


Excavation of the Quadrangle site; photograph taken in mid-July 1984. Scheduled for completion in 1986.

## Objectives

Operations

1. To open, and operate the Quadrangle including establishment of the major international exhibit, research, collections, and education programs.
2. To fully equip the Museum Support Center, and establish as an integral part of operations a collections conservation and conservation training program.
3. To strengthen museum operations in the research, documentation, and care of the collections through inventories, the future development of new analytical programs, automated security and information retrieval systems, and conservation programs.
4. To improve the level of technical assistance, equipment, and program funds which support collections related and other original research by the Institution's professional staff. Priority is placed on stimulating innovative approaches to research through competition and outside peer evaluation, and through in-residence fellowships for senior and aspiring junior scholars, especially women and minorities.
5. To develop contemporary exhibitions and exhibition techniques to communicate to the Institution's audiences recent discoveries, important ideas, and new results of scholarship in science, history and art.
6. To enhance the Institution's activities in national and international cultural and environmental conservation, research and education with emphasis on temperate and tropical biology, and on the conservation and study of endangered species.

Principal Funding Source(s)

Federal Appropriations Nonappropriated Unrestricted Trust Funds and private donations

Federal Appropriations and Nonappropriated Unrestricted Trust Funds

Federal Appropriations

Federal Appropriations and Nonappropriated Unrestricted Trust Funds

Federal Appropriations and Nonappropriated Unrestricted Trust Funds

Federal Appropriations
7. To continue to offer the nation an outstanding magazine, and other quality publications on subjects within the Institution's responsibilities; to utilize the latest technologies and methods to provide radio programs, recordings, and television presentations.
8. To strengthen the National Collections for research and exhibitions through the acquisition of important objects and specimens.
9. To augment administrative, financial and other support services to meet current and anticipated program needs. Areas of special emphasis include information management, personnel, facilities planning and engineering, security, and library services to meet the total requirements of the Institution; computer and photographic services in connection with improved documentation of the collections; and facility and protection services. Strengthening of equal employment opportunities and activities will receive increased attention over the planning period.

## Facilities

1. To develop and equip the Quadrangle (the area bounded by the Smithsonian Institution Building, the Freer Gallery of Art, the Arts and Industries Building, and Independence Avenue) to accommodate the activities of the Center for African, Near Eastern, and Asian cultures.
2. To acquire and restore the General Post Office Building for public use and enjoyment as a center for the exhibit and study of American art and culture.
3. To pursue the development of animal and public facilities at the Zoological Park in Rock Creek Valley, and to improve the research, conservation, and visitor education facilities at the Zoo's Research and Conservation Center at Front Royal, Virginia.

Nonappropriated
Unrestricted Trust Funds

Federal Appropriations, Nonappropriated Unrestricted Trust Funds, and private donations.

Federal Appropriations and Nonappropriated Unrestricted Trust Funds

Federal Appropriations, Nonappropriated Unrestricted Funds

Federal Appropriations

Federal Appropriations


General Post Office Building, view of the F Street Entrance.


General Post Office Building,
4. To repair, upgrade, and restore Smithsonian buildings to keep them in safe and functional condition with special emphasis on the provision of fire detection, containment, and suppression systems, access by handicapped persons, building exteriors, and energy conservation.
5. To provide new and renovated facilities at the Smithsonian's Washington, D.C. and field locations for purposes of facilitating research and educational programs.

For the most part, the effects of inflation cannot be incorporated realistically into the Institution's resource forecasts for bureau and program operations. Summary Table 1, however, attempts to show the general levels of resources that would materialize assuming legislated pay changes are forthcoming in the range of 4 to 6 percent per year and assuming federal nonpersonnel purchases occur based on price changes for future years as derived from indices supplied by the Office of Management and Budget. Similar patterns are incorporated for trust projections. By FY 1990, resources from all sources required for various operations would increase from FY 1984 levels of approximately $\$ 299,000,000$ to about $\$ 490,000,000$ and it is expected that more than one-half of this increase will be due to changes in legislated and other pay scales, increases in utilities, rent, postage, communications and other inflationary causes.

Exclusive of legislated pay increases, federal salaries and expenses are projected to increase approximately $\$ 84,000,000$. Significant additions are forecast for such items as security and protection, utility costs, necessary pay increases, inflation in nonpay areas, research equipment, equipping and operating the Museum Support Center and the Quadrangle, basic and interpretive research utilizing the collections and scientific and cultural information, improvement to technical and administrative support, and for physical operations and maintenance.

Operations supported with nonappropriated trust funds and federal grants and contracts are expected to increase by approximately $\$ 57,000,000$. These increases involve primarily the revenue producing activities, including the Magazine and the Smithsonian Press, where production expenses are predicted to increase considerably. Detailed forecasting of federal grant and contract activities is difficult to achieve, but the Institution expects some increasing support for various operations in future years. Finally, operations funded by restricted trust fund resources are expected to remain approximately stable, largely reflecting a conservative outlook for gift and grant support in future years. This forecast may change over the fiscal year.

[^0]The trust fund forecasts assume the Institution will make measured progress in increasing its capital reserves (endowments), thus approximately $\$ 3,000,000$ to $\$ 4,000,000$ a year is incorporated into the projections for this purpose. In addition, trust support for fellowship stipends, special exhibitions, collections acquisition, research, and other educational activities is projected to be slightly higher in future years if economic conditions permit, and if the Institution's auxiliary and revenue-producing activities continue to perform in a satisfactory fashion. Provision was made in FY 1984 to apply an amount of $\$ 2,700,000$ towards construction of the Quadrangle. This represented the balance of the approximate $\$ 9,500,000$ of institutional trust funds to be used for this purpose as previously approved by the Regents. Federal construction appropriations of $\$ 36,500,000$ or onehalf of the total estimated construction costs, were received in FY 1983. Recision of $\$ 8,000,000$ of this amount occurred during the FY 1984 budget process. An amount of $\$ 8,000,000$ is being requested in the FY 1986 budget for equipping the Quadrangle, and emphasis is being given to raising funds from private donors for program support during the planning period.

Major additions to physical facilities are expected over the next five years other than the Quadrangle. The Institution is working toward acquiring the General Post Office Building, now occupied by the International Trade Commission, with expectations of restoring the facility for public and museums uses. In addition, major projects are currently envisioned for the Environmental Research Center near Edgewater, Maryland, the Rock Creek facilities of the Zoological Park, the Freer Gallery, Administrative Services, and the Air and Space Museum. Projects for this latter organization include an initial storage facility for large air and space craft funded from appropriations, and modifications to the present mall building for establishing trust funded food services which will serve the public in a much more suitable fashion than at present. Improvements and contemplated changes to other facilities include the installation of fire detection and suppression systems, the correction of other hazardous conditions and attention to disabled persons access, the provision of renovated and new facilities (such as the Anacostia Neighborhood Museum, the Whipple Observatory, the Tropical Research Institute, and the Environmental Research Center) and a continuing program of repairs and maintenance to all Smithsonian buildings.

Notes on Financial Projections
The tables are designed to show trends in the Institution's future year resource patterns, and to reflect the changes and growth contained in the narrative portions of this report. The FY 1984 figures are estimated end-of-year expenditures and income. FY 1985 figures are those pending approval by Congress, Board of Regents' authorization to expend the FY 1985 appropriation, and Board of Regents' approval of the nonappropriated trust fund portion of the FY 1985 budget.

The FY 1986 figures reflect the consolidated budget assembled for approval by the Board of Regents at its September 17, 1984 meeting. The estimates have been submitted to the Office of Management and Budget. The FY 1986 figures resulted from the Institution's planning and budget reviews which took place during the spring and summer months of 1984. Projects for years FY 1987-1990 were derived from basic materials prepared by the organizations and bureaus of the Institution and then reviewed by the appropriate
members of the Secretary's Executive Committee. The trends represent management's best estimate of federal and trust resources that will be needed to meet program and operating aspirations of the Institution.

Trust fund projections, as mentioned earlier, are particularly vulnerable to fluctuations in the nation's economic climate. They are presented to help explain the expected use of these funds. Trust funds are composed of restricted and unrestricted funds. Unrestricted trust funds (general and special purpose) originate from a variety of sources including income from endowments and current fund investments, parking and food service concessions, sales of Smithsonian products based on designs and objects in the collections, the Resident and National Associate Programs (including Smithsonian magazine), a publication program, and the museum shops. In addition, certain bureaus have their own income-producing activities, such as the Theater and Spacearium operations of the Air and Space Museum. Restricted trust funds include gifts, grants, endowment, and other income designated for specific projects and purposes by the donor. The Freer fund is the largest example in this category, being strictly controlled under the terms of the original bequest for the sole use of the Gallery.

There are three major purposes to which the unrestricted trust funds are applied. First, the expenses of the Associate Programs and revenueproducing activities, such as the Smithsonian magazine and the museum shops, are funded from the earned income of these activities. Second, central management and administrative service units of the Institution, such as legal counsel, accounting, personnel, supply and others, receive trust fund allotments funded almost entirely from the overhead recovery on grants and contracts administered by the Smithsonian and from administrative fees charged to trust-funded activities. General operating funds are also provided to various units for research and other specific purposes. Third, a variety of allocations for important institutionaI and bureau needs has been made with the approval of the Board of Regents, such as the Collections Acquisitions, Scholarly Studies, and Education Programs; and the Institution's Fellowship programs.

After the three major categories of operating expense financed with unrestricted trust funds are met, the remaining unrestricted income is designated for three purposes. Funds are transferred to the museums and galleries in recognition of their assistance in the planning and carrying out of museum shop, product development, and concession programs. These funds are used for the general operations of the recipient bureaus. A second designation is for improvements to the physical plant or land acquisitions. Finally, funds permitting, the Institution makes an annual transfer to its endowment for the purpose of providing income for rising costs in future years.

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

Tables 1 and 2. Table 1 contains general levels of dollar resources (or revenues) from various sources which the Institution projects will be
necessary for the conduct of its operations. In a summary fashion, it incorporates estimates for inflation and pay increases associated with federal and trust operations of the Institution. Table 2 projects expenses by functional area of operation (Science, History and Art, etc.) along with the application of trust funds to such items as plant improvements; endowments; and special activities such as the Collection Acquisition, Scholarly Studies, and Education Programs.

Tables 3, 3A and 4. All major construction projects are included that are underway or being planned. For some future projects, detailed planning and estimating remain to be done (e.g. base camp facilities at Mt. Hopkins for the Whipple Observatory and storage facilities for the Air and Space Museum) and the amounts as well as the possible sources of funding have not been fully determined.

Table 5. Projections associated with programs and operating activities of units to be located in the Quadrangle, along with some expected maintenance and support costs, are consolidated in Table 5 to provide an overview of the organizational resources involved in that new facility.

Appendix I, Tables 6 through 13. These contain detailed expense projections for the Institution's museums, galleries, and laboratories. For ease of presentation, expenses associated with the various administrative, financial, and support organizations of the Institution are grouped into three categories in Table 13: (1) Central Management Offices, (2) Specialized Administrative and Technical Offices, and (3) Facilities Offices.

Appendix II, Table 14. Presents operating funds for the period FY 1975-FY 1990 in actual and constant 1984 dollars.
FY 1984 PROIECTED THROUGI FY 1990

| (\$000) Table |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SOURE OF OPERATING FUNDS | FY 1984 | FY 1985 | FY 1986 | FY 1987 | FY 1988 | FY 1989 | FY 1990 |
| Federal Salarles and Expenses | 156,683 | 170,682 | 188,425 | 216,504 | 224,020 | 235,586 | 241,271 |
| .Plus amulative effect of legislated pay ralses | - |  | 11,200 | 20,300 | 29,400 | 38,600 | 47,900 |
| Subtotal | 156,683 | 173,582 | 199,625 | 236,804 | 253,420 | 274,186 | 289,171 |
| Nonapproprlated Trust Fends |  |  |  |  |  |  |  |
| Unrestricted General |  |  |  |  |  |  |  |
| - Irvestments | 2,900 25 | 3,000 50 | 3,050 50 | 3,100 50 | 3,150 50 | 3,300 50 | 3,400 50 |
| . Aurdllary Activities | 113,410 | 120,730 | 130,275 | 139,305 | 147,675 | 156,765 | 166,880 |
| .Miscellaneous | 45 | 50 | 50 | 50 | 50 | 50 | 50 |
| Subtotal | 116,380 | 123,830 | 133,425 | 142,505 | 150,925 | 160,165 | 170,380 |
| Unrestricted Special Purpose |  |  |  |  |  |  |  |
| . Investments | 619 | 507 | 516 | 520 | 520 | 520 | 520 |
| . Gifts | 111 | 120 | 125 | 125 | 125 | 125 | 125 |
| . Breau Activities | 2,745 | 3,029 | 3,133 | 3,300 | 3,400 | 3,500 | 3,600 |
| .Miscellaneous | 1,136 | 1,051 | 1,166 | 1,180 | 1,180 | 1,180 | 1,180 |
| Subtotal | 4,611 | 4,707 | 4,940 | 5,125 | 5,225 | 5,325 | 5,425 |
| Restricted |  |  |  |  |  |  |  |
| - Irvestments | 3,206 | 3,337 | 3,617 | 3,775 | 3,925 | 4,075 | 4,225 |
| .Gffts, Grants and Contracts | 5,355 | 8,336 | 5,952 | 6,400 | 6,100 | 6,000 | 6,000 |
| .Miscellaneous | 999 | 969 | 1,006 | 1,050 | 1,050 | 1,050 | 1,050 |
| Subtotal | 9,560 | 12,642 | 10,575 | 11,225 | 11,075 | 11,125 | 11,275 |
| Federal Crants and Contracts | 15,582 | 16,445 | 18,482 | 26,462 | 28,169 | 31,530 | 17,429. |
| Gross Income | 302,816 | 331,206 | 367,047 | 422,121 | 448,814 | 482,331 | 493,680 |
| Less Expenses of Auxdliary and Bureau Activities | $(98,057)$ | $(106,490)$ | $(114,827)$ | $(122,566))$ | $(130,217)$ | $(138,783)$ | $(147,129)$ |
| Net Funds Provided | 204,759 | 224,716 | 252,220 | 299,555 | 318,597 | 343,548 | 346,551 |
| - - |  |  |  |  |  |  |  |


| (\$000) |  |  |  |  |  |  | Table 2 (1) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APPLICATION OF OPERATING FUNDS | FY 1984 | FY 1985 | FY 1986 | FY 1987 | FY 1988 | FY 1989 | FY 1990 |
| Science |  |  |  |  |  |  |  |
| .Federal Salarles and Expenses | 51,973 | 55,681 | 58,590 | 66,292 | 69,830 | 72,087 | 73,565 |
| . Unrestricted General |  |  |  |  |  |  |  |
| -Program and Administrative* | 798 | 497 | 445 | 455 | 444 | 469 | 478 |
| -Auodliary Activities | - | - | - | - | - | - | - |
| -Unrestricted Special Purpose |  |  |  |  |  |  |  |
| -Bureau Activities | 1,523 | 1,528 | 1,549 | 1,636 | 1,699 | 1,768 | 1,839 |
| -All Other | 2,803 | 2,195 | 1,633 | 1,653 | 1,731 | 1,823 | 1,914 |
| .Restricted | 2,702 | 2,831 | 2,574 | 2,652 | 2,942 | 2,821 | 2,951 |
| .Federal Grants and Contracts | 14,966 | 15,990 | 18,175 | 26,122 | 27,821 | 31,174 | 17,065 |
| Subtotal | 74,765 | 78,722 | 82,966 | 98,810 | 104,467 | 110,142 | 97,812 |
| History and Art |  |  |  |  |  |  |  |
| .Federal Salarles and Expenses | 25,585 | 28,132 | 32,944 | 38,690 | 39,897 | 39,905 | 40,594 |
| .Unrestricted General |  |  |  |  |  |  |  |
| -Program and Administrative | '1,489 | 1,273 | 1,264 | 1,272 | 1,302 | 1,325 | 1,355 |
| -Audllary Activities | - | - | - | - | - | - | - |
| .Unrestricted Special Purpose |  |  |  |  |  |  |  |
| -Burear Activities | 673 | 723 | 744 | 783 | 805 | 829 | 853 |
| -All Other | 1,273 | 951 | 882 | 1,058 | 1,087 | 1,117 | 1,148 |
| .Restricted | 4,427 | 5,893 | 4,857 | 5,114 | 5,241 | 5,419 | 5,552 |
| -Federal Grants and Contracts | 177 | 50 | 50 | 75 | 75 | 75 | 75 |
| Subtotal | 33,624 | 37,022 | 40,741 | 46,992 | 48,407 | 48,670 | 49,577 |
| Public Service |  |  |  |  |  |  |  |
| -Federal Salaries and Expenses | 1,833 | 2,007 | 2,807 | 2,932 | 3,002 | 3,004 | 3,092 |
| . Unrestricted General |  |  |  |  |  |  |  |
| -Program and Administrative | 1,368 | 1,645 | 1,884 | 1,989 | 2,131 | 2,286 | 2,485 |
| -Auxdllary Activicies | 11,695 | 12,460 | 13,045 | 13,670 | 14,330 | 15,020 | 15,660 |
| -Unrestricted Special Purpose |  |  |  |  |  |  |  |
| -Bureau Activities | 26 | 39 | 41 | 47 | 51 | 57 | 62 |
| -All Other | 260 | 110 | 109 | - | - | - | - |
| .Restricted | 111 | 1,770 | 1,486 | 1,800 | 1,370 | 1,100 | 950 |
| -Federal Grants and Contracts | - | - | - | - | - | - | - |
| Subtotal | 15,293 | 18,031 | 19,372 | 20,438 | 20,884 | 21,467 | 22,249 |
| *Net of SAO Overhead Recovery |  |  | 13 |  |  |  |  |

SMITHSONLAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1984 PROIECTED THROUGH FY 1990


SMITHSONLAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1984 PROJECTED THROUGH FY 1990

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APPLICATION OF OPERATING FUNDS
FY 1984 PROJECTED THROUCH FY 1990



## SCIENCE

The science programs of the Institution consist of the Museum of Natural History/Museum of Man, Astrophysical Observatory, Air and Space Museum, Tropical Research Institute, Environmental Research Center, and the Zoological Park. In addition, some of the supporting units that report to the Assistant Secretary for Science include the Office of Educational Research, the International Environmental Science Program, and the Office of Fellowships and Grants. The latter two offices are contained within the Special Programs chapter to provide consistency with the FY 1986 budget submission. In addition to fellowships, the Office of Fellowships and Grants oversees the activities of the Institution's Special Foreign Currency Program.

The Smithsonian is a unique international resource in basic science and provides critical continuity to various kinds of long-term research that is not normally done by universities or other federal agencies. The research activity of Smithsonian scientists is fundamental to the Institution's ability to meet its public obligations. The accuracy and currency of its exhibits and the quality of its public education programs, for example, depend on the research results of its staff. Adequate support for the Institution's scientific research is needed if other elements of the Smithsonian's overall program are to thrive. For example, the value of the Institution's vast scientific collections must be weighed in terms of the information that can be derived from them. The ability to maintain the Smithsonian's preeminent role in various scientific disciplines and to provide enhancement for selected new starts is emphasized in the planning period. The scientific enterprise of the U.S. is largely dependent on fundamental knowledge gathered by organizations such as the Smithsonian to achieve major breakthroughs in science and technology.

## Current and Projected Resources

Sources of science support vary markedly from organization to organization. For example, the Marine Station at Link Port, Fort Pierce, Florida, which is administered by the Museum of Natural History, operates solely with restricted trust funds, while the Astrophysical Observatory, because of its unique national and international position as a research leader, has about two-thirds of its dollar and personnel resources associated with federal grants and contracts. The Tropical Research Institute and the Zoological Park, on the other hand, rely extensively on federal appropriations for maintenance of programs.

As is the case with other museums and galleries of the Institution, the Museum of Natural History and the Air and Space Museum conduct their basic exhibit, research, collections, and building services activities primarily with federal appropriations, but at the same time enjoy measured support from restricted or unrestricted trust sources, and from federal grant and contract work based upon their ability to obtain these funds.


This photograph of a dog tick, as seen through the scanning electron microscope, was featured in the exhibition "Exploring Microspace" at the National Museum of Natural History, March 16 - July 15, 1984.


Walter Brown at work, chief of the Museum of Natural History's scanning electron microscope laboratory.

A breakdown of estimated FY 1984 and projected FY 1990 resources available for science operations (before application of overhead recovery) follows:

| Source of Funds | FY 1984 |  | Projected FY 1990 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Full-time <br> Employment | $\begin{gathered} \text { Funds } \\ (\$ 000 \mathrm{~s}) \end{gathered}$ | FTE | $\begin{gathered} \text { Funds } \\ (\$ 000 \mathrm{~s}) \end{gathered}$ |
| Federal Salaries <br> \& Expenses | 1,299 | \$51,973 | 1,529 | \$73,565 |
| Unrestricted trust | 80 | 7,154 | 80 | 7,016 |
| Restricted trust | 8 | 2,702 | 11 | 2,951 |
| Federal Grants | 155 | 14,966 | 119 | 17,065 |
| \& Contracts |  |  |  |  |
| Total | 1,542 | \$76,795 | 1,739 | \$100, 597 |

In FY 1984, total resources amounted to approximately $\$ 77,000,000$ and 1,542 full-time employees. Total funding consisted of approximately 68 percent federal appropriations, 19 percent federal grants and contracts, and 13 percent nonappropriated unrestricted and restricted trust funds.

## Future Year Prospectus

The major goal of the Science programs for the next five years is to maintain and improve the capabilities of the Smithsonian as a scientific institution. This goal will be sought by placing highest priority on increasing knowledge through imaginative and pioneering research in disciplines which the Smithsonian has historically followed. To achieve this goal the Institution is undertaking a major program to upgrade and replace research equipment including computers. The science bureaus have inventoried their equipment and a long-range plan for replacement has been developed with phased implementation to occur over the planning period.

During the next five years the Smithsonian will continue to seek expansion of its scientific staff in order to strengthen its research position as a national leader in science and technology. The Astrophysical Observatory will begin developing its capability in submillimeter interferometry and the Air and Space Museum will seek some added historians of aeronautics and space technology. The $Z 00$ will develop its capacity for research relating to the captive management of animals and the problems of reintroducing zoobred animals to the wild. In Panama, the Tropical Research Institute will recruit scientists to strengthen research in Biochemical Evolution, Limnology, Marine Plankton and Soil Ecology. In Edgewater, Maryland, the Environmental Research Center is developing its long-range research program to take advantage of the unique features of its twenty-six hundred acre estaurine research site. A quantative ecologist will be sought to fill a needed gap. Finally, the Museum of Natural History will be devoting much of its energy in the next five years to moving its collections to the new


During the recent extraordinary El Nino event many of the coral reefs in the Eastern Tropical Pacific died off. Here we see a reef in Panama which is beginning to grow back. The white areas are new heads of living coral growing over the extensive dead and darker areas.


A Smithsonian Tropical Research Institute biologist is shown preparing to drill into a coral reef. The cores obtained from this work will help determine whether the extraordinary die-offs of coral reefs have occurred previously during the last 1000 years.

Museum Support Center in Suitland, Maryland. Major research projects being developed by the Museum's staff include a biological inventory of coastal Panama in connection with a proposed new sea-level canal and a long-term biological survey of the United States.

An increase in the use of computers will occur in the next five years. The Astrophysical Observatory is the largest user of computers for research and they will be upgrading their capabilities. The Air and Space Museum has pioneered in the museum field the use of videodiscs and digital analyses to make their photographic archives almost instantancously available; this technique is being adapted by other Smithsonian museums in areas of collections management and inventory. The technique is expected to spread to museums throughout the United States and the world.

Increased publication funds are needed to reduce the large backlog of manuscripts, especially at the Museum of Natural History, and will be sought during the next five years. Another important component of the Institution's responsibility to diffuse knowledge is the exhibition program. At the $Z 00$ most of the original Master Plan is expected to be completed during the forthcoming planning period. New exhibits will include invertebrates such as insects and spiders, and a comprehensive one which will cover aquatic animals, including fish. The Natural History Museum will be seeking ways to accelerate its permanent exhibition program, while continuing to mount high quality temporary shows in the Evans Hall Gallery. At the Air and Space Museum (NASM) plans continue to develop a facility at Dulles Airport to exhibit large machines such as the Space Shuttle and the Concorde. Eventually the restoration activities of the NASM Garber Facility at Suitland are planned to move to the new Dulles facility. Two new IMAX films have been commissioned to be developed and shown in NASM's Langley Theater.

Finally, the Office of Educational Research, administered by the Assistant Secretary for Science, has moved to new quarters at the National Zoo and plans modest expansion of its research on how people--particularly children--learn in non-formal educational settings. Planning is now underway for facilities at the Environmental Research Center, Tropical Research Institute, the Astrophysical Observatory (i.e. the Whipple Observatory atop Mount Hopkins, Arizona) and the aforementioned Air and Space Museum storage and exhibit areas at Dulles Airport. During the period FY 1986-FY 1990, it is expected that renovation and new construction will occur at these bureaus to strengthen programs currently underway, and to adequately meet new responsibilities. Additional information on facilities requirements is presented in the Facilities chapter.

Overall levels of Science operating funds are expected to reach levels of about $\$ 100,000,000$ and 1,700 staff in FY 1990. Most of the increase is associated with appropriation needs of the Natural History Museum, the Zoological Park, and the Astrophysical Observatory. Availability of restricted and unrestricted trust funds is expected to increase modestly. Future year levels of federal grant and contract work are difficult to project at this time because of the uncertainty surrounding NASA support of the Astrophysical Observatory's research programs but are expected to increase somewhat over current levels. Detailed projections for Science bureaus appear in Appendix I.


The videodisc project at the National Air and Space Museum is providing scholars, educators, researchers, and other members of the public access to the Museum's vast collection of archival aerospace photographs.

## HISTORY AND ART

History and Art at the Smithsonian is defined to embrace the following organization units: The Museum of American History, which is primarily concerned with American history and the history of technology; the Museum of American Art, which is the Smithsonian's museum devoted to the history of American art, along with its subsidiary, the Renwick Gallery, which displays decorative arts and crafts; the Portrait Gallery, which studies American biographic history through the various media of portraiture; the Hirshhorn Museum and Sculpture Garden, which is the Smithsonian's museum of modern art; the Center for Asian Art, comprised of the Freer Gallery of Art and the Arthur M. Sackler Gallery of Art, which together cover the broad fields of Near and Far Eastern art; the Cooper-Hewitt Museum, which focuses on design and holds one of the major decorative arts collections in the world; the Archives of American Art, the nation's largest repository of documentary materials pertinent to the study of American art history; the Joseph Henry Papers Project, which edits and publishes the papers of Joseph Henry, the first secretary of the Smithsonian and a leading scientist in the mid$1800^{\prime} \mathrm{s}$; the Museum of African Art, which deals with traditional art forms of the continent of Africa; the Anacostia Neighborhood Museum, which serves as a cultural resource for the people of Anacostia through research and exhibitions on Black contributions to local and national history; and the Office of the Assistant Secretary for History and Art, which provides overall guidance and coordination.

The resources and programs of the Office of American Studies are also administered by the Assistant Secretary for History and Art, as is the trust funded Collections Acquisition Program. These activities are contained in the Special Programs chapter to provide consistency with the FY 1986 budget submission to the Office of Management and Budget.

## Current and Projected Resources

Each of the History and Art museums has its own physical plant, its own distinctive collections, and its own specialized staff, and, more importantly, its own character and sense of purpose. Although the Freer Gallery of Art opened more than 50 years ago, the preponderant activity in History and Art at the Smithsonian has been developed largely over the last twenty years, in most instances following specific enactments by the Congress. The budgets for History and Art activities have grown at a measured pace, and most of the bureaus are now reasonably well funded to carry out at least the basic charge each has been given.

Current funding for History and Art activities consists of a mixture of appropriated federal funds, infrequent federal grants and contracts, nonappropriated restricted trust funds, and allocations of nonappropriated unrestricted trust funds. In FY 1984, resources available to History and Art programs amounted to approximately $\$ 34,000,000$ and 772 full-time positions. About 76 percent of the dollar figure and 90 percent of the personnel represent federally appropriated support for basic exhibit, research, education, and administrative activities of the museums and galleries. Most


This expressive portrait of American painter, Mary Cassatt, by her good friend Edgar Degas, was an important acquisition by the National Portrait Gallery and was made possible through grants from the Cafritz Foundation and the Collection Acquisition Program of the Smithsonian.
of the balance consists of resources associated with trust operations, with only a small portion originating in federal grant and contract work. A breakdown of FY 1984 and projected FY 1990 levels of resources follows:

| Source of Funds | FY 1984 |  | Projected FY 1990 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Full-Time Employment | $\begin{aligned} & \text { Funds } \\ & (\$ 000) \\ & \hline \end{aligned}$ | FTE | $\begin{aligned} & \text { Funds } \\ & (\$ 000) \\ & \hline \end{aligned}$ |
| Federal Salaries | 695 | \$25,585 | 874 | \$40,594 |
| \& Expenses |  |  |  |  |
| Unrestricted trust | 35 | 3,435 | 33 | 3,356 |
| Restricted trust | 42 | 4,427 | 44 | 5,552 |
| Federal Grants | - | 177 | - | 75 |
| \& Contracts |  |  |  |  |
| Total | $\overline{772}$ | $\overline{\$ 33,624}$ | $\overline{951}$ | \$49,577 |

Unrestricted trust fund support is concentrated primarily in the Cooper-Hewitt Museum, Archives of American Art, and Museum of American History. Restricted trust fund support is largely directed to the operations associated with the Freer Gallery of Art, the Cooper-Hewitt Museum, and the Archives of American Art. Only a minor amount of grant and contract work is present in the Cooper-Hewitt Museum.

Generally, the larger of the History and Art bureaus--the Museum of American History, the Museum of American Art, the Hirshhorn Museum and Sculpture Garden, the Portrait Gallery--are supported predominantly with federal funds. Their exhibition, research, collections management, and building operations comprise their major expenses. Each of these museums, however, has small amounts of trust funds (at most about 10 percent of the total resources) made available by donors for specific purposes, and from proprietary activities (bookstores, museum shops, cafeterias and the like), on their respective premises. These latter funds are used for a variety of program purposes.

The operationally smaller History and Art bureaus--the Freer Gallery of Art, Cooper-Hewitt Museum, Museum of African Art, Archives of American Art --work with more evenly mixed financing. Most of the Freer's principal programs are financed by the income from a restricted endowment fund established by Mr. Freer's Will; federal funds support the costs of protecting and managing the collections and building, and general administration. The Cooper-Hewitt Museum receives an annual allocation of Smithsonian unrestricted trust funds to help support its programs; beginning in 1979, federal funds supported a small portion of the exhibition program as well as the costs of maintaining and protecting the building and collections and a share of administrative costs. In addition, the Cooper-Hewitt Museum raises in excess of a million dollars annually to support its exhibitions and related educational activities. The Museum of African Art raises from $\$ 25,000$ to $\$ 50,000$ per year from private sources to finance certain of its educational activities and the retirement of real estate mortgages it incur-
red before joining the Smithsonian. The Archives of American Art's Board of Trustees raises between $\$ 500,000$ and $\$ 600,000$ each year to support more than one-half of the Archives' program.

In addition to this general pattern of fund availability and use, the History and Art units are eligible for allocations from the special trust fund Collections Acquisition, Scholarly Studies, Education and Special Exhibition Programs, and from the Special Foreign Currency Program. They also enjoy the presence of pre- and postdoctoral research fellows selected competitively through the Smithsonian's fellowship awards program and funded with nonappropriated unrestricted trust funds.

## Future Year Prospectus

Art. For the next five years the single most comprehensive change in History and Art programming will be occasioned by the Quadrangle development. Affecting both the Museum of African Art and the Sackler Gallery of Art, this major construction project will provide the long-overdue opportunity to present non-Western art to the visiting public in facilities commensurate to the importance of African, Middle Eastern and Asian cultures in the broad spectrum of Man's creative history. Completion of the Quadrangle, scheduled for 1986, continues to be a high priority and program plans for major opening exhibitions and educational activities will be receiving priority attention, along with logistical planning for collections management, security, research programs and all other aspects of museum management. Federal resources for such program development for the Sackler Gallery and the Museum of African Art amount to about \$4,900,000 including approximately 62 new positions by FY 1990. These resources concentrated in exhibition, education, and conservation efforts are in addition to appropriations required for basic building management, security, and utility costs and other programs and support which, by 1990, should total 202 positions and \$5,600,000. Programs and operational resource projections for occupants of the Quadrangle are summarized in Table 5.

Paralleling the opportunity for aesthetic and cultural explication of foreign peoples represented by the Quadrangle, some of the world's richest collections in American art and material culture are found in the museums of the Smithsonian Institution as well. They range from large holdings of decorative arts -- furniture, silver, textiles, porcelain and glass -- to folk arts and the fine arts' including major collections of paintings, sculpture, photographs, prints, and drawings. Supporting the collections are unparalleled resource materials such as the historical documents in the Archives of American Art and the Anacostia Neighborhood Museum, the Museum of American Art's Inventory of American Paintings, research libraries, as well as recognized scholars working in various areas of American art. By virtue of the richness and diversity of the Smithsonian's collections and its documentary and staff resources, the Institution has become, in fact, a major international center for the study of American art and material culture. This center can and should be strengthened by building up its individual parts, including research programs, exhibitions, teacher-training, lectures, and publications, primarily at the Museum of American Art, the Portrait Gallery, the Archives of American Art, and the Anacostia Neighborhood Museum. Toward this objective, the Institution will continue to seek the funds needed to permit balanced program presentations. In
future years, increased support for exhibits production and scholarly positions, as well as for expanded publications, both on collections and for exhibitions, will be requested. Funding will also be requested to enable the bureaus to continue and to expand nationally recognized research data bases in American art and to increase scholarly and public accessibility to such data, as well as to archival material and collections, through the fruits of new developments in computer technology. When the General Post Office Building becomes available to the Institution, it would serve as a major facility for special exhibitions of American art and portraiture-including the important medium of photography--on a scale that cannot now be accommodated, provide space for the utilization, display and presentation of the Archives of American Art, now housed in widely scattered locations, and allow for improved facilities for an expanded educational program in American art and culture, involving classrooms, seminar rooms and a 300 or more seat auditorium for public programs.

History. An equally central focus for the Institution's exposition of American culture is the Museum of American History. Building on recent improvements in collections management, inventory, conservation and storage programs, and energized in its public aspect by new major exhibitions, the Museum will be very active in all aspects of its programming during this five-year period with special emphasi ; on the management of collections and the reinstallation of permanent exhibits. A ten year exhibition plan, formulated early in 1982, points the way to presenting social history in addition to the history of technology; achieving a more ordered spatial layout; and providing improved orientation for the public through signage, labels, and other educational techniques. Over the next five years, the Museum will move ahead on reinstalling its permanent exhibition halls. By FY 1986, Engines of Change: The Industrial Evolution in America will have opened. This exhibition examines the forces behind the transfer of industrial technologies from England to America. In addition, construction will have begun on The Constitution as a Living Document, an exhibit celebrating the bicentennial of the signing of the United States Constitution. Other exhibits planned include: Graphic Arts: 100 Years, a retrospective exhibit about the Division of Graphic Arts; Domestic Interiors in Eighteenth Century America, which depicts the significant changes in the ways Americans furnished their homes during the $1700^{\prime} s$; and Bridges of Niagara, which presents the history of the nearly 20 bridges that have been built since 1848 at Niagara Falls. Reinforcing its exhibit plan, the Museum will continue its commitment to public education through lively tours and educational activities, concerts and recitals, and regular and special events.

By the end of FY 1986, the refinement of inventory records and the photographic recording of especially valuable objects will be completed. To improve automated records control, the Museum will need to add additional computer hardware and increase the system's main memory, storage capacity, and software to support effectively the needs of the Museum staff and programs. Along with these collection initiatives, the Museum will continue to address its long-term storage and conservation needs by upgrading its existing object storage equipment or purchasing new equipment when necessary.

In addition to these improvements in general collections programs, the Museum is bringing the extensive collections of graphic and archival materials, distributed throughout curatorial divisions, under more systematic


The Anacostia Neighborhood Museum's Black Wings exhibition, featured C.D. "Lucky" Lester, lecturing local school children about his remarkable victory day on July 18, 1944 which earned him the distinguished flying cross.
care and control. The appointment of an archivist, a small archives staff, and the restoration of curatorships will benefit the Museum in substantial ways throughout future years. This core staff and facility would also be of key service in helping to integrate into the Museum the photographic and archival collections of the International Museum of Photography at George Eastman House. Substantial new federal funds will be required once the Institution and Eastman House reach formal agreement on such a transfer. As the timing of this development is not yet clear, the tables in the Appendix have not been revised to provide for this collection. Early estimates call for approximately $\$ 3$ million the first year and $\$ 1,500,000$ to $2,000,000$ annually thereafter.

Two other significant developments may reach fruition over the planning period for the Museum of American History. The first would involve a cooperative agreement between the U.S. Postal Service and the Institution under which the Museum would be provided space at the Main Post Office building just north of Union Station in Washington, D.C. in which to care for and display the Museum's postal history collections. The second involves the potential gift of some 40,000 historic U.S. Patent Office models from the 1800 's plus a multimillion dollar grant to restore and exhibit them. Both these possibilities would increase the expense figures for the Museum in the tables in Appendix I.

All these developments within History and Art stand to benefit as well the Anacostia Neighborhood Museum's programs, as that Museum enters an era of closer cooperation with the Smithsonian's Mall bureaus. Beginning in FY 1985 with a comprehensive survey of collections at the National Museum of American History to identify those with significant Black American relevance, and extending through a master plan of invigorated exhibitions and educational programs at its new consolidated Fort Stanton facility, the Anacostia Neighborhood Museum will be seeking a stronger role in its community as an innovative educational force and planning for its further development for the 1990's and beyond.

Complementing these central efforts, each History and Art unit will be seeking to maintain high performance in all program areas, devoting special attention to selected high priority initiatives. For example, over the next several years, every History and Art bureau will continue to emphasize improved management of collections, from computerization of the records at the Museum of American History, Cooper-Hewitt, and the Archives of American Art, to the production of major exhibitions at the Hirshhorn Museum and Sculpture Garden based on foreign loans of modern art. The Archives of American Art will intensify efforts to preserve its photographic collection as well as 2,500 valuable oral histories. Additional conservation capability will be added to the Hirshhorn Museum and Sculpture Garden, the Museum of American Art, and the Portrait Gallery; and the Museum of American History will oversee movement of appropriate collections to the Museum Support Center. The Joseph Henry Papers staff will begin the phased development of the Joseph Henry Institute for the History of Science in American Life; and the Anacostia Neighborhood Museum will continue to encourage collaborative endeavors with other Smithsonian museums. Finally, October 12, 1992 will mark the 500th Anniversary of the voyage and discovery of Christopher Columbus. To commemorate this significant event, the institution will be planning a series of symposia and exhibitions that will
recognize and commend the governments and people of Spain and Italy for their historic role and contributions to those voyages. Tentative planning for the Quincentennial will begin during this five-year period and would provide opportunities to explore the historical period of America's beginning and the diverse cultural heritages of individual regions of the land, as well as an opportunity to improve our collections, particularly in American history.

To meet the goals outlined for the next five years, it will be neces sary throughout History and Art to add staff positions primarily in collections management, conservation, exhibitions and education. To this end, budgetary adjustments within bases will be made and some new resources, both federal and trust, will be sought, as detailed in the appendix.

Other Programs. Other priorities within History and Art through FY $19 \overline{90}$ are largely related to improving physical facilities, including the Museum of American History's objects storage facility at Silver Hill and relocation of the Archives of American Art's New York office. Construction of an annex to the Anacostia Neighborhood Museum exhibits laboratory along with a more intense review and consideration of long-term facility needs of the museum will take place, particularly with regard to possible sites and other factors related to the future growth of the Poplar Point area in the city of Anacostia. Below grade development of the Freer Gallery of Art's courtyard would do much to capture valuable additional space, as will remodeling the Freer's lower level to accommodate the physical connection with the Quadrangle and subsequent refurbishment of Freer staff and exhibit space.

Extensive renovation of the Old General Post Office Building will be required for the programs of the Museum of American Art, Portrait Gallery, and the Archives of American Art. The growing collections and public responsibilities of these bureaus have heavily taxed their recent building and their continued vitality is dependent on the availability of additional space for exhibition, public programming and scholarly purposes. While not included in the resource projections of these bureaus, additional associated program and support costs are estimated to be about $\$ 4,900,000$ annually, plus about $\$ 1,300,000$ for moving and equipment related to programs.

The Cooper-Hewitt Museum will continue to seek donors to support renovation of the Miller House which adjoins the Carnegie Mansion and is part of the Cooper-Hewitt Museum in New York. This project is essential to provide galleries for temporary exhibitions as well as for exhibition of the permanent collection, expanded collection storage, educational facilities and office space. In addition, completion of facade repairs to the Renwick Gallery is a high priority for this period. These various construction and renovation efforts represent by far the largest need for direct new funding on the part of History and Art bureaus of the Smithsonian. Additional information is contained in the Facilities chapter and the Beyond 1990 chapter of this document.

History and Art resources are projected to increase to about $\$ 50,000,000$ and 951 staff in FY 1990. Most of the increase is associated with appropriation needs of the Sackler Gallery, Museum of African Art, Cooper-Hewitt Museum, Hirshhorn Museum and Sculpture Garden, Museum of

American History, Museum of American Art, the Portrait Gallery and the Archives of American Art. Restricted and unrestricted expenses are expected to increase to about the $\$ 9,000,000$ level, and grant and contract activity is expected to be less than $\$ 100,000$. Detailed projections for History and Art bureaus are contained in Appendix I.

## PUBLIC SERVICE

The Public Service programs are the central focus for the Institution's "diffusion of knowledge" activities. These are: Smithsonian Magazine, contained within the Associates Program chapter because of the general support the Magazine provides to many programs of the Institution and because it is viewed as a major benefit to Associates; Smithsonian Institution Press, including the University Press publications, popular books marketed through direct mail, and the Smithsonian Recordings Program; Office of Elementary and Secondary Education, contained within the Special Programs chapter to provide consistency with the FY 1986 budget presentation; Visitor Information and Associates' Reception Center; the Office of Telecommunications; the Office of Smithsonian Symposia and Seminars, and the Office of Folklife Programs. The latter two offices also are incorporated within the Special Programs chapter. The Assistant Secretary for Public Service also is responsible for the Quadrangle's International Center. In addition to their outreach activities, the Office of Smithsonian Symposia and Seminars and the Office of Folklife Programs carry out research activities. The vigorous growth of Smithsonian outreach trust funded programs can be attributed largely to the success of the Magazine. Through the application of trust funds generated by the Magazine and other revenue producing activities, a variety of valuable conferences, publications, and other projects have been made available in recent years to the public. While enriching the kinds of services provided, the Institution at the same time has been able to reduce the requirements for federal appropriations.

Current and Projected Résources
Resources in FY 1984 devoted to Public Service activities amounted to about $\$ 15,000,000$ and 104 full-time employees. Total funding in FY 1984 consisted of approximately 12 percent federal appropriations and 88 percent nonappropriated unrestricted trust funds. The largest amount of support for Public Service programs comes from the Institution's trust operations, and unrestricted trust fund support is, for the most part, concentrated in the expenses of the Smithsonian Press which derives these resources from the sale of trust funded books and records, royalties and special publishing services. These funds support about one-half of the Press' staff and also provide for the necessary services required to develop, market, warehouse, and distribute records and scholarly and general interest books, which are published in connection with the Institution's research, collections, exhibitions, and other programs. Federal appropriations largely support the publication of the basic technical and scientific series distributed by the Government Printing Office, other publications and conferences, international liaison functions, and a substantial portion of the staff and operations of the lnstitution's centralized film and television operations. The Visitor Information and Associates Reception Center is operated primarily with trust funds, but some additional appropriated resources will be required beginning in FY 1986. Restricted purpose funds are occasionally obtained for support of special activities sponsored by various units; for example, these funds support certain programs of the annual Folklife


Participants in the Visitor Information and Associates' Reception Center's 9:30 a.m. orientation session get a head start in planning their day at the Smithsonian.


The Visitor Information and Associates' Reception Center's telephone information service responds to public inquiries seven days a week, totaling over 320,000 calls annually.

Festival on the Mall and are expected to provide the rescurces to permit the International Center to equip its theatre and produce a series of films on natural and cultural conservation concerns.

A breakdown of FY 1984 and projected FY 1990 levels of resources follows:

| Source of Funds | FY 1984 |  | Projected <br> F) 1990 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Full Time Employment | $\begin{aligned} & \text { Funds } \\ & (\$ 000 \mathrm{~s}) \end{aligned}$ | FTE | (\$000s) |
| Federal Salaries | 46 | \$ 1,833 | 94 | \$ 3,092 |
| \& Expenses |  |  |  |  |
| Unrestricted trust | 58 | 13,349 | 76 | 18,207 |
| Restricted trust | - | 111 | - | 950 |
| Federal Grants | - | - | - | - |
| \& Contracts |  |  |  |  |
| Total | $\overline{104}$ | $\overline{\$ 15,293}$ | $\overline{170}$ | \$22,249 |

## Future Year Prospectus

The principal goal for the Public Service programs of the: Institution over the planning period is to further in a significant way the development of a coherent public understanding of intercultural and international issues at work today. This will be addressed in part through the operations of the International Center, and in part by examining the potential for a Smithsonian series of supplementary educational materials in the form of publications which combine printed work, sound, and motion picture media along with the broadest range of other available technologies. The Institution, because of information recently available as a result of the collections inventory, and because of more diverse visiting and scholarly audiences expected in future years, is in a position to make major contributions in this area. This endeavor will involve the cocrdination of public service activities with business management, educational activities, and scholarly research projects throughout the Institution. What is foreseen is an overall effort which will provide educational institutions, foreign and domestic, with new teaching and learning materials designed and produced fron the resources of Smithsonian scholars and collections. In addition some existing materials may be suitable for republication in new formats. An understanding of this kind is important, will take time, and will be phased with the ongoing activities of Public Service units. The International Center will facilitate many of these objectives.

An example of the educational value of Smithsonian resources and activities is the major series for public television, Smithsonian World, to be broadcast for a second year under an initial grant of $\$ 3.5$ million from the McDornell Foundation. Hosted by David McCullough and dealing with subjects and study areas related to Smithsonian interests, the second season is scheduled to begin this fall.


Learning and enjoying. For some one million visitors annually, the Folklife Festival on the Mall offers an opportunity to experience the rich cultural heritage of this country. A wood carver from Alaska demonstrates his skills at the summer 1984 Festival.

The Smithsonian Press publishes for libraries, museums, scientific institutions and interested members of the public, the goverrment funded scientific, technological, and historical monographs of Smithsonian curators and staff experts. The Press also edits and designs federally financed exhibition catalogs, educational pamphlets, and information leaflets that serve the millions of visitors to the Smithsonian in Washington, D. C. and extensive programs conducted all over the nation. These services will continue throughout the planning period. The Press also publishes with trust funds scholarly and general interest books of high quality, together with recordings which preserve significant developments in the history of American music.

It is envisioned that the Office of International Activities (OIA) will play a vital role over the planring period due prinarily to the expected activities of the new International Center. OIA staff will coordinate with and will travel to the countries fectured in the Quadrangle to administer exchange agreements and regional study programs. For non-Quadrangle countries, OIA will manage growing visas and passport services connected with other Smithsonian bureau activities such as the Conservation Analytical Laboratory's proposed conservation training prcgram and the Office of Museum Programs' advisory service to foreign museums.

The Office of Folklife Programs engages in the documentation, analysis, presentation and conservation of living fclklife traditions. In addition to the scholarly study of folklife, the Office endeavors through its public programs to give national recognition to, and to educate wider audiences about, a variety of traditional cultural forms. Future exhibition plans include cooperation with the International Center in producing exhibits on folklife from the countries included within the Center's scope, particularly on the topic of cultural conservation. The Office also plans to expand the: educational use uf its archives, which includes recordings of Festival performances, fieldwork interviews, and documentation of other Office projects (e.g. film/monograph series publications, the FDR Centennial concert, Inaugural $\epsilon$ vents, and the Celebration: A World of Art and Ritual exhibition at the Renwick).

Coinciding with completion of the Quadrangle construction and the formal cipening of the new Center for African, Near Eastern and Asian Cultures will be a special colloquium focusing on these separate expressions and their contributions to world civilizations. The Office of Smithsonian Symposia and Seminars will coordinate this effort. The Office is also involved in planning the Institution's observances of the 200th anniversary of the signing of the Constitution. A seminar is planned, "Learning the Duties of Citizenship," which will examine childhood experience as preparation for adult civic responsibilities; this will be one of several activities leading to a major international symposium on "the Pursuit of Justice" in 1987.

For FY 1987 the Office of Elementary and Secondary Education (OESE) plans to coordinate and assist with the Office's growing national outreach efforts to schools and other child-centered institutions, such as children's hospitals. 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 special education programs trust funds. These startup funds
permitted the development of test versions of activity packets based on Smithsonian collections for hospitalized children between the ages of five and eighteen. The project has now advanced to the stage where corporate :mplementation funds have been sought to enable completion of this project.

Over the next five years, federal grcwth of about $\$ 1,300,000$ is projected, rising from the current levels of $\$ 1,800,000$ to about $\$ 3,100,000$ by FY 1990. The increase is attributable most prominently in FY 1986 to the new International Center which will coordinate collaborative research projects involving Smithsonian, United States, and foreign scholars. The programs will lead to a series of international and interdisciplinary symposia, designed to encourage inquiry across cultures, which will be held in conjunction with exhibitions and performance programs. Some additional trust funding is forecast. for the Visitor Information and Associates' Reception Center to provide an increase in services to the general public and to respond to an expected growth in telephone and written inquiries. Overall trust funded activities are projected to increase from about $\$ 13,000,000$ in FY 1984 to approximately $\$ 19,000,000$ in FY 1990, but much of this is attributable to increases in expenses associated with revenue producing activities of the SI, and the research, symposia, education, exhibitions and performances programs of the International Center. Also, over the planning period ways will be considered to continue to enhance outreach programs, such as the radio, film, and video production activities of the Office of Telecommunications (jncluding Smithsonian Galaxy, Radio Smithsonian, and Here at the Smithsonian), and the various worthwhile proposals that come forth from the bureaus. Detailed projections for Public Service Bureaus appear in Appendix I.

## MUSEUM PROGRAMS

Museum Programs consists of the Office of Museum Programs, Conservation Analytical Laboratory, Office of the Registrar, Office of Exhibits Central, Smithsonian Institution Libraries, Smithsonian Archives, the Traveling Exhibition Service, and the National Museum Act. The Office of Horticulture and South Group Buildings Management also report to the Assistant Secretary for Museum Programs. Resources associated with these last named activities appear in the chapter on Administration, Financial and Other Support Services to be consistent with the budget presentation to the Office of Management and Budget. Collectively, these units provide a number of specialized services and programs to museums and research bureaus of the Institution and to the museum community at large. Most of these services relate to fundamental aspects of museum development and operations, such as collections management, conservation, production of exhibitions, training for museum professionals, and bibliographical and archival support for research. Other activities--traveling exhibitions, grant awards and technical assistance programs--make it possible for the Institution to share many of its resources with museums and similar organizations throughout the United States and abroad.

Museums today are recognized as important elements in the cultural and educational fabrics of both developed and developing nations and public and private organizations which support museums are paying increasing attention to the effectiveness and strength of their performance. More than ever before, museums are held accountable for the quality and condition of their collections, for the educational values of their exhibitions, and for the significance of their research and informational programs. In response to these changing perceptions, museums have begun to assign higher priorities to certain basic functions, particularly collections management and conservation, which traditionally have received less than adequate support. This heightened concern has created a need for better trained personnel in all areas of museum operations, for improved systems, and for an expansion of conservation services based on sound scientific analysis of the materials which make up museum collections. In addition, museums require strong library and archival resources to support their research and informational activities. Currently available resources can be expanded substantially by providing greater access to the growing number of networks of computerized bibliographic data bases, and through application of automated data processing systems to many library functions previously performed manually.

Much of the effort of the organizations within the Museum Programs function of the Institution is directed to these and similar issues. Over the planning period these units intend to strengthen their capabilities to assist the Institution and other museums to meet these critical needs.

## Current and Projected Resources

The overwhelming proportion of support for the bureaus and offices of the Museum Programs organization in FY 1984 comes from federal appropriations. Of the approximately $\$ 14,500,000$ available for Museum Programs
activities $\$ 9,200,000$ or 63 percent are provided by federal support. A breakdown of FY 1984 and projected FY 1990 resource levels follows:

| Source of Funds | FY 1984 |  | Projected <br> FY 1990 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Full-time Employment | $\begin{aligned} & \text { Funds } \\ & (\$ 000 \mathrm{~s}) \end{aligned}$ | FTE | $\begin{gathered} \text { Funds } \\ (\$ 000 \mathrm{~s}) \end{gathered}$ |
| Federal Salaries | 217 | \$ 9,173 | 314 | \$16,758 |
| \& Expenses |  |  |  |  |
| Unrestricted trust | 40 | 2,824 | 41 | 2,515 |
| Restricted trust | 6 | 2,493 | 2 | 1,029 |
| Federal Grants | - | 45 |  |  |
| \& Contracts |  |  |  |  |
| Total | $\overline{263}$ | \$14,535 | $\overline{357}$ | \$20,302 |

Only the Traveling Exhibition Service has the majority of its support provided from unrestricted ( $\$ 2,102,000$ ) and restricted trust funds ( $\$ 1,967,000$ ) which constitute $92 \%$ of its resources in FY 1984. Limited trust fund support is available to the Smithsonian Institution Libraries and Archives for support of staff and related costs. In FY 1982, the Kellogg Foundation awarded the Office of Museum Programs (working in conjunction with the Resident Associate Program) a three year grant to foster the educational influence of museums. Apart from this, the Office of Museum Programs has revolving trust fund budgets to receive revenues for handling and shipping costs associated with audiovisual programs on conservation information. The Office of Horticulture, South Group Buildings Management and the Office of Exhibits Central have small trust fund accounts to provide support for trust fund activities.

## Future Year Prospectus

Over the planning period, federal resources for Museum Programs units (excluding the Office of Horticulture and South Group Buildings Management) are expected to increase from $\$ 9,000,000$ to about $\$ 17,000,000$. The greatest part (about $\$ 6,000,000$ ) of this projected increase is associated with expanded library services and facilities, and with the work of the Conservation Analytical Laboratory. Only modest increases are forecast for museum training activities, archival programs, and exhibits support services.

Several activities are closely associated with such institutional initiatives as administration and maintenance of the Museum Support Center, and the Collections Management/Inventory program and are included in this chapter. The relocation of the Conservation Analytical Laboratory to the Museum Support Center and the expansion of its training and archaeometric research programs is a development of major importance to the Institution and to museums generally.

With regard to collections oriented research, the brochure prepared in 1977 to describe the then proposed Museum Support Center spoke of the importance of collections research in these terms: "Collections of objects and works of art represent the physical evidence of man's inventiveness and creativity and the environment in which he has evolved. Without objects, we would be unable to understand natural process, or the aspirations and achievements of the civilizations which preceded ours and which document our common origin and heritage. With objects, we can--through direct observation and tactile experience--grasp with greater clarity a sense of the forces that helped to shape those civilizations. The knowledge we get from the study of these objects provides new perspectives for understanding and influencing the directions in which mankind is moving."

Research at the Smithsonian has been traditionally driven by the collections. Currently, various bureaus are engaged to differing degrees in research on their diverse collections, and Appendix III contains some descriptions of these activities. In future years, use of the collections for research at the Smithsonian will increase. The recent inventory has brought into focus for Smithsonian and other researchers the variety, range, and depth of the collections, and the information potential they represent. The establishment of research and conservation laboratories and curatorial areas at the Museum Support Center, the provision of additional internships and fellowships, the regular upgrading and replacement of research equipment, plans for increasing skilled personnel and the growing importance of the Institution's international functions combine to provide a strengthened base from which collections oriented research can receive greater emphasis in future years. In addition, archaeometric studies will become increasingly important. In studying man-made objects, form and decoration have classically been the differentiators establishing provenance. With the advent of archaeometry, the chemical composition, internal structure and other physical characteristics of objects can be quantified and statistically analyzed by computer techniques. Such studies need large numbers of objects of known provenance to be sampled, accurately measured and the data stored in an accessible manner. The Smithsonian Archaeometric Research Collections and Records of the Conservation Analytical Laboratory have been set up to focus research in this area and to maintain a bank of data and samples.

All of the Conservation Analytical Laboratory's functions-conservation treatment, conservation science and archaeometry--moved to the Support Center in the fall of 1983 and occupy new laboratory and work areas totaling approximately 40,000 square feet. This space also will accommodate the Institution's new conservation training program which is now being planned. Phased growth of staff and resources to make proper and full use of these new facilities will occur throughout the planning period. Specialized equipment has been acquired and installed, recruiting activities for qualified conservation and scientific personnel have been pursued vigorously, and arrangements for the training program have been explored in cooperation with local universities and conservation professionals. The internal staff structure of the Laboratory has been reorganized to accommodate its larger size and its several specialized functions. Working from these foundations, the Laboratory will be in a substantially stronger position to offer increased conservation and related services to the

Institution's museums and to museums generally through its training and informational programs. A major thrust will be to coordinate and integrate these staff and facility resources effectively to broaden the range of expertise available for the training program, to provide a broader technological base for new work in conservation treatment, and to make full use of modern instruments and analytical methods to provide answers to important questions in conservation and collections research.

Work in archaeometry has thus far centered on chemical and petrographic analysis of objects and materials to determine provenance. In addition, neutron-induced autoradiography of paintings has been used in combination with other examination methods to give critical information on technique and attribution. These methodologies will continue, and others such as isotope analysis will be extended. Effective use of physical and chemical data derived from objects to determine their place in time or their origin depends upon comparison with an adequate data base. At present, these data bases and samples from objects of interest are scattered throughout the country and have limited uniformity of quality control. The Archaeometry Department of the Laboratory operates the Smithsonian Archaeometric Research Collections and Records (SARCAR) in order to bring these data together at a single point and to apply uniform criteria to them. SARCAR is essential to research on collections. It is a source of reference materials (petrographic thin sections, metallographic sections, etc.) and data (neutron activation, X-ray diffraction, electron microscope analyses results, etc.). The Smithsonian is committed to collections research and to the Fellowship Program in Materials Analysis for art history, anthropology, and the history of materials technology. The Archaeometry program will grow during the planning period and will enhance the Smithsonian's ability to use and preserve data in a meaningful and effective manner. The Laboratory plans to improve its methods of gathering and disseminating other data to serve practicing conservators and the general public. It will work closely with the Office of the Registrar in development of policies and procedures for the control of information and collection materials passing through the Laboratory.

The first steps to be taken in the conservation training program will be a series of seminars directed toward practicing conservators. These seminars will be the basic building blocks for a post graduate conservation training program for approximately eight to twelve students a year, beginning in FY 1986.

The branch Library at the Support Center will also work in close concert with the Laboratory to provide the bibliographic resources needed. The training section of the Office of Museum Programs will continue to participate in the development of the conservation training program and will assist in the production of audiovisual resources needed for the training, research, and treatment functions.

In addition to direct involvement with the Museum Support Center through the Laboratory and Library operations, the Assistant Secretary for Museum Programs participates in equipment acquisition and space utilization planning for the Center. The development and establishment of the Center's collections management systems and environmental practices also will continue to be a concern of that office.

Completion of the initial inventory of Smithsonian collections in June 1983 was a landmark in the development of improved collections management policies for the Institution. The inventory produced vital base-line data on current holdings which will enhance and clarify existing acquisition and catalogue records and serve as a base for computerized record keeping systems in the future. The inventory, however, is only one aspect of collections management which also involves accountability procedures contained in the collections policies and information management techniques of the Museums. These provide knowledge about and access to all of our objects and specimens. An additional two positions will be requested during the planning period to aid the Registrar in monitoring the compliance of individual museums with institutional collections management policies. This unit will continue to develop, oversee and coordinate the policies and practices related to the management of collections. The Office will evaluate the experience of the recent inventory effort to generate up-dated policies and plans for new inventory cycles appropriate to the nature and size of the collections of each of the museums, and it will continue to monitor future inventory activities. The Office will work closely with all museums to improve and refine their individual collections policies and, in cooperation with the Office of Museum Programs, will develop and offer training programs for Smithsonian personnel in collections registration and related functions. The Office of the Registrar will continue to oversee the affairs of the Smithsonian's Registrarial Council and will assemble collections management information for dissemination through that group.

The Smithsonian Institution Libraries (SIL) reaches a turning point in many of its operations in FY 1984 with the implementation of the automated library system, which has been planned over the last several years in cooperation with the Office of Information Resource Management. The system will support wider and more effective use of book, manuscript and graphic resources and will provide on-line access to additional bibliographic information held in library network data bases. With this major development in place, SIL will address other issues, such as enhancement of research collections; increased participation in networking with other research libraries; overcoming backlog problems in such areas as trade literature, conservation, deacidification, and catalogue conversion; improvement of library space and facilities; and upgrading of staff. A major goal is to increase the book purchase fund. The SIL spends about $\$ 700$ per researcher on books and journals each year but must borrow an average of 100 books each day from other libraries which means Smithsonian researchers wait an average of three weeks for each of these 25,000 books per year, a serious and costly detriment to research; further, borrowed materials frequently must be returned to the lending library before the SI staff has completed use. The expenditure per researcher needs to grow by three or four times to avoid these problems. For example, in the National Museum of Natural History there are new emphases on African anthropology, island ecosystems, and other topics which need to be funded. At the National Zoological Park, bibliographic collections in such fields as animal nutrition and veterinary medicine must be kept current, and similar serious gaps occur in the collections of SIL branches which support the Smithsonian Tropical Research Institute, the National Air and Space Museum, the Smithsonian Astrophysical Observatory, the Cooper-Hewitt and the Museum Reference Center. The growth


Smithsonian's Office of Exhibits Central Chief, James Mahoney (right), discusses exhibition techniques with participants from Yugoslavia, the Federal Republic of Germany, the German Democratic Republic, Romania, Belgium and Italy attending a special international project on museum administration at the Smithsonian.
of programs planned for the National Museum of African Art after its move to the Quadrangle in 1986 will also require substantially greater bibliographic services.

SIL is also looking ahead to improve basic facilities for storage purposes. Approximately 100,000 volumes, including 50,000 pieces of trade literature, are not being stored in adequate circumstances. Many of these items are irreplaceable. The Institution is considering ways to solve the immediate storage problem, and, for the long run, is beginning to plan for a possible library facility.

Smithsonian Archives (SIA) during the planning period will extend its archival and records management programs to all records-producing offices of the Institution, resulting in substantial increases in annual transfer volumes and annual growth in holdings. The Archives will continue its project to identify and describe photographic collections in the Institution, and to issue a guide based on the results of this two-year survey. SIA will thereafter maintain and update an ongoing record of photographic resources. Further work on developing description and cataloguing down to the individual image level within collections is expected to follow the initial survey project. The Archives will expand its oral history program and will embark on a phased program of improving conservation work. A survey of scientific illustrations will be undertaken and a guide produced. SIA will maintain and update an ongoing record of scientific illustrations as part of the program in Natural History. Like the Libraries, the Archives also has space problems which will need to be solved.

The Office of Museum Programs (OMP) over the planning period will seek a gradual increase in federal support for its Native American Training and audiovisual programs. OMP will participate with other units in strengthening Native American Programs in general. The number of qualified Native Americans available to serve the more than 100 tribal museums and cultural centers remains discouragingly small, and although these museums hold remarkable and important cóllections of historical and ethnological materials, they lack resources to provide the required training themselves, or to obtain much needed technical assistance for their museum operations. The great popularity and heavy continuous use of the informational audiovisual programs dealing with preventive maintenance and care of collections in museums have been in great demand. OMP plans to increase the number of subjects covered by these slide sets and tapes and will require funding for professional production support to make this possible.

In FY 1984, the Office of Exhibits Central (OEC) served more than thirty-nine Smithsonian units and was involved in some two-hundred and fifty projects. OEC is a major source of exhibit support for the Traveling Exhibition Service for its national and international exhibition programs. To maintain productive capacity in the coming years, the Office of Exhibits Central plans to add a total of thirteen exhibits professionals to its staff. These new positions will help to fill Institution wide demand for design and editing services, model making, graphics production, and exhibit fabrication. In addition, the Office plans to continue to replace worn and outdated equipment, including its freeze-dry machinery, and will also upgrade its shops and work areas by installation of such devices as dust collectors and exhaust systems. Some additional support will be required
for servicing Quadrangle programs beginning in FY 1986, and this is incorporated into the Office's projections.

The Traveling Exhibition Service (SITES) international exhibition programs, which are multi-year projects, have enjoyed much success to date. These have included American Impressionism which traveled throughout Europe and American Porcelain which is circulating throughout the Far East and India. Other exhibitions currently under development and which will extend well into the planning period include From Ebla to Damascus containing objects of antiquity from Syria, Hollywood: Myth and Reality which may be presented in Europe as well as in the United States, and in cooperation with the United States Information Agency, Good as Gold: Alternative Materials in American Jewelry which will tour South America for eighteen months. Precious Legacy: Judaic Treasures from Czechoslovak State Collections opened at the Smithsonian late in 1983 and will tour widely in the United States through 1985.

In 1982, SITES has maintained its "poster panel" shows. During the 1983-1984 period SITES developed Colorful Kite Tails and Getting the Picture: The Growth of TV in America. Poster panel shows are twodimensional, printed versions of exhibitions, which may be purchased by SITES' clients who wish to keep them permanently for their own exhibition or collection purposes. SITES plans to produce at least one of these poster panel exhibitions each year.

The Traveling Exhibition Service is scheduled to move to the Quadrangle in 1986, where it will cooperate with other Smithsonian bureaus in production of exhibitions related to Quadrangle museum and research activities. These joint efforts will be similar to those used presently for exhibitions in the Evans Hall in the Museum of Natural History.

The National Museum Act (NMA) makes grants to museums, academic institutions, and museum associations for the purpose of enhancing professionalism in the museum community, advancing knowledge about critical museumrelated problems, and disseminating information through seminars and publications. Through its various programs over the years, the Act has emphasized conservation and the improvement of preservation practices. Although conservation awareness has increased recently in the museum community and among federal funding agencies, the Act remains unique in its support of individuals who are pursuing professional training in conservation and in its funding of scientific research on both the deterioration mechanisms of objects and materials used by conservators. The Office of the Assistant Secretary for Museum Programs and the NMA staff maintain continuing liaison with professional associations in order to monitor changing museum issues and with federal funding agencies to avoid occurrences of overlap. Reauthorization is being sought for FY 1986, FY 1987, and FY 1988.

The Office of Horticulture will absorb a major responsibility for the garden being planned for the top of the Quadrangle Building, and resources to cover this added requirement are contained in the Office's projections. During the planning period, this Office also plans to enlarge and improve its greenhouse facilities at the Old Soldiers and Airmen's Home, to continue its work with special collections of rare and endangered floral species and to place special emphasis on the care of the trees on Smithsonian grounds
along the Mall. Resources over the planning period for all activities are contained in the Administrative, Financial, and Other Support Services chapter.

## SPECIAL PROGRAMS

Specia? Programs include the Offices of American and Folklife Studies, the International Environmental Science Program, Academic and Educational Programs (including the Office of Symposia and Seminars, the Office of Elementary and Secondary Education, and the Office of Fellowships and Grants); the Collections Management/Inventory Program; and the trust funded Collections Acquisition, Scholarly Studies, Education and Special Exhibition Programs. This chapter also contains the equipping, move and operating requirements for the Museum Support Center. The resources associated with the International Environmental Science Program, the Fellowship Programs of the Institution, the Collections Management/Inventory Program, and the trust funded Collections Acquisition, Scholarly Studies, Education, and Special Exhibition funds are generally available to all organizations of the Institution if they meet stardards and selection procedures.

Current and Projected Rescurces

| Source of Funds | FY 1984 |  | Projected FY 1990 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Full-time Employment | $\begin{gathered} \text { Funds } \\ (\$ 000 \mathrm{~s}) \end{gathered}$ | F]E | $\begin{aligned} & \text { Funds } \\ & (\$ 000 \mathrm{~s}) \end{aligned}$ |
| Federal Salaries <br> \& Expenses | 114 | \$10,020 | 132 | \$ 6,364 |
| Unrestricted trust | 14 | 5,019 | 20 | 11,088 |
| Restricted trust | - | 283 | - | 328 |
| Federal Grants <br> \& Contracts | - | 394 | - | 289 |
| Total | $\overline{128}$ | \$15,716 | $\overline{152}$ | \$18,069 |

Funding patterns vary, and include programs which are funded entirely from federal appropriations to those funded solely through trust operations of the Institution. American and Frlklife Studies operate with both federal appropriations and trust funds and also seek grants and contracts for special projects. Federal funds support the Folklife admiristrative staff as well as office experises; travel expenses; research and publication efforts; two-thirds of the cost associated with the anntal folklife festival; and special projects, such as the recent Museum of American History exhibit Southeastern Potteries. Trust funds support the salaries of the remaining permanent staff members, one-third the cost of the annual festival, and some travel and office expenses. Grants and contracts are sought to augment programs at the annual festival (e.g. the Alaska and the Black Urban Expressions programs at the 1984 festival).

Trust funds cover the direct costs of the Visiting Research Fellowships, the Regent's Fellowships, the Cooperative Education Program, and the James E. Webb Fellowship program. Administrative costs for the Office of Fellowships and Grants, the office which marages these programs, are essen-
tially federally funded. In addition to administering the Institution's entire range of fellowship offerings, the Office of Fellowships and Grants also manages, for the Assistant Secretary for Science, the Special Foreign Currency Program.

The Office of Elementary and Secondary Education conducts its basic activities through federal appropriations, and solicits trust funds or grants for support of special projects, meetings or conferences. The Office of Symposia and Seminars receives an annual allotment from trust funds for administration and direction of its activities, which include seeking outside support for the academic and intellectual conferences which it coordinates. Both offices are administered by the Assistant Secretary for Public Service.

The International Environmental Research Program was established in the early $197 \overline{0}$ s to promote interbureau research on environmental matters by funding special, long-term projects using the principal scientific strengths of such organizations as the Tropical Research Institute, Smithsonian Environmental Research Center, Natural History Museum, and the Zoo. These funds are federally appropriated and administered by the Assistant Secretary for Science.

Collections Management/Inventory Programs. In FY 1979, Congress appropriated special funds in the amount of $\$ 500,000$ to help allow the Institution to begin conducting a major inventory of its variots collections, including those being housed in the Museum Support Center. The initial inventory was completed in June 1980 with some one hundred million items documented as being in the collections, but there is a real need to continue the program in future years. There was an acceleration of efforts in FY 1984 for reconciling the inventory results with catalogue and other records, establishing routine procedures for entering data on incoming objects, refining the results of collections that were inventoried by batch rather than individual counts, and continuing to refine and improve on the data processing systems for accessing information on the collections. The program will continue to be administered by the Assistant Secretary for Museum Programs, working in cłose consultation with the Assjstant Secretaries for Science and History and Art to assure that from year-to-year the mest urgent projects are selected for funding through this appropriation.

Collections Acquisition, Scholarly Studies, Education, and Special Exhibition Programs. In FY 1978, the Regents established a special trust account to be used for strengthening the Smithsonian's collections through purchase of major works of art and objects of scientific and historical value, and to allow for the funding of special projects important to the research and educational functions of the Institution. A total of $\$ 17,845,000$ in unrestricted trust funds was approved by the Regents for allocation to bureaus through FY 1984: \$4,350,000 for scholarly projects, $\$ 4,600,000$ for educational activities, and $\$ 8,895,000$ for collections acquisitions.

These funds, along with about $\$ 200,000$ that had been earmarked in earlier years for similar purposes, have made possible important activities in various museums and other bureaus of the Institution, including major acquisitions for the Hirshhorn Museum and Sculpture Gerden, the Portrait

Gallery, the Museum of American Art, the Freer Gallery of Art, the CooperHewitt Museum, and the Museums of Natural History, American History, and African Art. The funds have also supported major scientific studies and educational efforts, scientific workshops and conferences, student intern programs, Native American training programs, presentations, programs and performances for special groups including the handicapped and the elderly, and weekend films and lectures for the general public. It is anticipated, given available funds, that these Regents' programs will continue during the planning period.

In a similar fashion, a trust-funded Special Exhibition Program is being proposed for establishment beginning in FY 1985, and is budgeted for the initial year at $\$ 3,000,000$. If implemented, the program will enable the Institution to fund exhibits for the general public which would otherwise not be possible because of timing or lack of resources. Appropriations of $\$ 750,000$ were received for a federally funded special exhibitions program in FY 1981. Several exhibitions were successfully produced over the next few years, during which time it became increasingly apparent that the financing needs for the exhibition program of the Evans Hall in the National Museum of Natural History, and the program of phased reinstallation of the permanent exhibit halls within the Museum of American History, were such overriding priorities that the resources of this program would best be allocated to those purposes on a permanent basis. Accordingly, for FY 1985 and beyond, the federal resources formerly shown under this head are included in the figures displayed for the Museum of American History and the Museum of Natural History. The proposed trust program results from earlier studies undertaken on ways in which nonappropriated funds could be directed to exhibitions in order to effectively continue a special exhibitions effort.

Museum Support Center Equipment and Operations. During FY 1984, many of the planned laboratories at the Museum Support Center were established and made operational and work on completing the rest of these facilities has proceeded steadily. Administrative and building management functions, including the automated data processing center, have been established to serve occupants and users of the Center. Installation of the initial segment of the three-tiered storage system for the "wet" collections (those stored in alcohol) is scheduled for completion in late 1984; transfer of collections will start immediately upon its acceptance. Under a contract awarded by the General Services Administration in January 1984, the structural framework of the first segment of the storage system of the "dry" collections is scheduled for installation by the fall of 1985. Plans call for the acquisition in FY 1985 of a major portion of the individual storage units (drawers, shelves, enclosures) needed to hold the collections. The final portion of these units will be obtained in early FY 1986; detailed planning for the storage equipment for the remaining $39 \%$ of the Museum Support Center storage space will also be initiated at that time. Detailed schedules covering all aspects of move-related tasks were prepared for all Smithsonian units involved in the relocation of collections. Using these schedules, work has begun on cleaning and packing the collection. As this process continues, collections are placed in staging areas from which they will be moved as the various parts of the storage system become ready to receive them. Move activities, which are governed by strict procedures and standards established to safeguard the collections, are expected to continue through FY 1989.

## Future Year Prospectus

The Office of Folklife Programs will continue to plan and produce the annual Festival of American Folklife which takes place during the two-week period at the end of June and over the July 4th holiday weekend. This Office will also continue its research and publication efforts, including the publishing of scholarly monographs on aspects of American culture (these monographs are accompanied by documentary films which visually explicate technical aspects of the written treatises) and mount special projects within the museums such as the "living celebrations" for the Renwick Gallery in FY 1983 which were part of the "Celebration" exhibition. Projections contained in this chapter and the Appendix tables reflect these plans.

Only small increases in federal resources are projected over the planning period for administering the activities of the Office of Fellowships and Grants including the Special Foreign Currency Program. If trust funds are available, however, significant added support for fellowships and stipends may occur. The Institution has given high priority to this program. Additional funding in FY 1985-87 from the Rockefeller Foundation enabled the Office to offer special fellowships related to Quadrangle programs. Continued increases in trust funding will permit expansion of the program to include more senior post-doctoral fellows as well as increasing the overall number of awards offered. Increases are also planned for the prestigious Regents Fellowships. These awards are offered to scholars of distinction and breadth of intellect to conduct in-residence studies of major importance.

As part of the effort to enhance minority participation in the life of the Institution, plans also call for providing expanding opportunities for minority students through internships and the Cooperative Education Program, and to increasing visiting faculty appointments available to faculty members from minority academic institutions.

No major growth of federal projects or resources is planned for the Office of Elementary and Secondary Education, but some expansion of trust supported programs is planned if funds become available. An anthropology resource kit for use in elementary and secondary schools has been developed, and, if it proves popular, may be adapted later for various other subjects in art, history, and science. Some additional workshops, the completion of a special project directed toward producing learning materials for hospitalized children, expanded programs for handicapped visitors, and a program designed to introduce minority young people to career opportunities at the Smithsonian also are underway. Ways to fund these activities through grants and contracts or through the Institution's earmarked educational trust funds are being considered.

Some added appropriations are projected in future years for travel, supplies and publication costs associated with the projects supported through the International Environmental Science Program, but current projections call for stable funding of the Symposia and Seminars, and Collections Management/Inventory Programs. Some growth in trust support for the Collection Acquisition, Scholarly Studies, and Education Program and the Special Exhibition Program is projected, but as is the case for other trust funded programs, this support is contingent in future years on economic
conditions, institutional priorities, and the abilities of the various auxiliary and revenue producing activities to sustain their popularity and financial performances.

The FY 1984 appropriations of $\$ 5,251,000$ allowed the Institution to operate the Museum Support Center. For FY 1985, the Institution is requesting $\$ 9,180,000$ in appropriations which includes $\$ 7,500,000$ for accelerating the planned acquisition of storage equipment and complete the purchase of equipment needed for the initial move of collections to the Center. Also included are $\$ 750,000$ for move of collections to the Center and $\$ 930,000$ for various maintenance and operating activities. In FY 1986, the Institution is seeking $\$ 5,800,000$ for equipment, move, and operating costs. For FY 1987-90, current plans call for equipping the balance of the Center and continuing with movement of collections. As reductions to equipment requirements over the planning period occur, there will be less need for federal appropriations.

Quadrangle. FY 1985 is the first year the Institution sought federal appropriations in a substantial way for Quadrangle staff, operations, and equipment. Some $\$ 1,109,000$ and twenty-one positions are contained in the FY 1985 budget request for the African Art Museum, Sackler Gallery, Libraries Traveling Exhibition Service, and for the International Center. For FY 1986, the costs associated with Quadrangle programs and operations are being requested as part of the base of the bureaus and units involved, and no longer appear in the Special Programs chapter, but are aggregated for display purposes in Table 5. Total appropriations for FY 1986 being requested amount to approximately $\$ 6,700,000$ for programs and operations, mostly for security, building and ground maintenance, utilities, and staffing and program support costs of the Museum of African Art, the Sackler Gallery, and the International Center; another $\$ 8,000,000$ is being sought for equipping the Quadrangle facilities through the construction account.

Much of the federal increase during FY 1984-1990 associated with Special Programs is for necessary operating and equipment funds, especially for the Museum Support Center. In FY 1990, Special Programs funding is projected to decrease because of reduced equipment requirements for the Museum Support Center. Unrestricted funds are expected to increase for fellowships and grants, the folklife program, and the trust funded collections acquisition, scholarly studies, education, and special exhibition programs. Detailed projections are presented in Appendix I.

## ASSOCIATES PROGRAMS

Founded in 1965 on the 200th birthday of James Smithson, the original Associate Program was designed especially for residents of the Washington metropolitan area, drawing on the varied resources of the Institution to provide educational and cultural opportunities to individuals or families who chose to join. The larger institutional aims in public education, however, have always been to make Smithsonian resources increasingly accessible to people of all ages and without regard to their geographic distance from the National Mall. With the establishment of the Smithsonian magazine in April 1970 as a major benefit and feature of a membership program, the original Smithsonian Associate Program has evolved now to include separate National and Resident organizations which offer educational and learning experiences geared to public constituencies in the Washington area, as well as across the country.

This chapter covers future plans, changes in activities, and resource estimates for Associates programs, including the National and Resident Associate Programs, the Office of Membership and Development which coordinates these Programs, and the Magazine which is part of the Office of Public Service.

## Current and Projected Resources

These trust-funded operations will have FY 1984 Associate activity revenues totaling approximately $\$ 72,165,000$ and 167 employees. Minor amounts were also available from special purpose funds and restricted gifts and grants. As a group, they will generate $\$ 11,595,000$ in unrestricted trust income for the Institution in FY 1984 after cost of sales, payroll, and other operating expenses. Gross expenses for unrestricted trust Associate operations will amount to over $\$ 60,570,000$.

National and international study tours, lectures and seminars in Washington and across the U.S., and contributing membership activities comprise the ways through which the National Associate Program serves members without regard to their geographic location. The Resident Associate Program offers a variety of popular classes, lectures, tours, and other activities for members in the metropolitan Washington area. It has generally been self-supporting since 1972, generating modest net funds each year which are budgeted with unrestricted funds of the Institution. The fund raising and administrative costs of the Office of Membership and Development are considered as an expense item against unrestricted funds. Contributions to the Smithsonian from corporations, foundations and individuals approximate $\$ 5,500,000$ in FY 1984. This figure does not include the Contributing Membership Program, contributions from the members of the James Smithson Society, or contributions toward the Quadrangle project or other construction and renovation programs.

The Magazine has been one of the most successful public education ventures established by the Institution. Its general acceptance is a tribute to the role it has played in filling a need for style and elegance, as
well as lucid reporting on cultural and scientific developments taking place in today's world. The largest portion of the resources for this group of activities is contained within the operations of the Magazine.

Unrestricted income and expenses for FY 1984 and projected FY 1990 are summarized below:

|  |  | Projected |  |
| :--- | :--- | :--- | :--- |
| FY 1984 |  |  | FY 1990 |
|  | Full-Time | Funds |  |
| Employment | $(\$ 000 \mathrm{~s})$ |  | FTE |

INCOME:

| Office of Membership | - | - |
| :--- | ---: | ---: |
| and Development |  |  |
| Resident Associate Program | $\$ 2,905$ | $\$, 030$ |
| National Associate Program | 11,660 | 18,500 |
| Magazine | 57,600 | 83,100 |
|  | $\$ 72,165$ | $\$ 105,630$ |

EXPENSES:

| Office of Membership and Development | 12 | \$ 900 | 20 | \$ 934 |
| :---: | :---: | :---: | :---: | :---: |
| Resident Associate Program | 46 | 3,090 | 55 | 4,105 |
| National Associate Program | 28 | 10,730 | 37 | 16,000 |
| Magazine | 88 | 45,850 | 92 | 70,400 |
| Total | 174 | \$60,570 | 204 | \$91,439 |
| ET GAIN: |  | \$11,595 |  | \$14,191 |

## Future Year Prospectus

National Associate Program. The objectives of the National Associate Program are to provide educational experiences of superior quality in subjects relating to the Smithsonian and to encourage support for the Institution's work. The enthusiastic participation of its national constituency has enabled the Program to meet and advance its outreach goals and has made the Program's fundraising activities a significant source of revenue for the Institution's unrestricted funds.

Each year, representatives of the Smithsonian travel to 20 different cities and present a total of over 200 lectures, seminars, workshops, and performances in cosponsorship with local scientific and cultural organiza-
tions. In 1985 the program will extend to Americans residing outside the continental United States, beginning with a series in Tokyo.

These activities are expected to continue to provide exciting learning opportunities for Associates and positive publicity for the Institution. In the past year 122 indepth newspaper articles, 40 TV interviews, placement of five Smithsonian Profile programs nationwide through cable networks, and innumerable radio interviews reflected the intense interest in the Program and the Institution.

Associates participated in over 100 foreign and domestic study tours in 1984. The market is expected to expand in the next five years. A more concerted effort will be made to increase the conversion of these travelers to Contributing Members.

The number of Contributing Members is expected to reach 45,000 by 1990 and the net funds raised by the National Associate Programs for the Institution's unrestricted funds in that year is projected to be $\$ 2,500,000$.

Resident Associate Program. Buoyed by increases in membership, retention of members, and attendance in FY 1984, the Resident Associate Program continues to enhance and develop its creative leadership role--both nationally and internationally--in museum membership, continuing education, and performing arts. The performing arts division (including Discovery Theater's live and puppet performances for children and families), undertaken in FY 1984 and now established, features a broad range of fine concerts and dance and theater events. The lively and extensive program of high quality cultural and educational activities is organized every month of the year--over 1,200 separate activities, many with multi-sections--in FY 1984, attended by over 200,000 persons. The next five years promise a growth rate of at least 25 percent. Telecommunications efforts, including audio-bridged and videotaped programs, have provided new arenas for national exposure this year, and the Program is building on the experience and contacts gained. The Program will, as it has done regularly, commission works of art as occasions arise.

RAP will continue to organize outstanding courses, seminars, lectures, films, performances, workshops, and study tours for adults and young people--members and the public--all taught and led by Smithsonian and guest scholars. Long a leader in planning programs in conjunction with Institutional, national, and international events, RAP is now planning actively for the centennial of the birth of Eleanor Roosevelt and the Festival of India in FY 1985, the bicentennial of the Constitution in FY 1987, and the quincentennial of the discovery of America in 1992, among other such events.

Expanding and broadening the composition of RAP membership, which now numbers over 55,000--representing at least 110,000 persons--and which continues to enjoy modest growth and a high retention rate ( 80.7 percent in FY 1984), are top priorities. In the immediate future, particular emphasis will be placed on innovative efforts to reach new audiences through greater diversity in programming and outreach. Telecommunications projects are underway with The George Washington University, the Educational Television Association, and C-Span, among others. Audio-teleconferencing of courses to
university campuses and videotaping of some programs have already been successful in FY 1984 and offer promising avenues for the development of new constituencies. Collaborative programs with community and national organizations such as the Folger Shakespeare Library, Audubon Naturalist Society, the National Trust for Historic Preservation, the American Institute of Architects, and the American Society of Interior Designers are some of RAPs viable affiliations.

The scholarship program for inner city young people and adults is ongoing. Discover Graphics, first undertaken in FY 1983 with special funding, provides free etching/lithographic workshops for area secondary school students and their teachers. The science lecture series offered free to science-oriented high school students identified by their teachers, begun in FY 1984, will be a regular outreach feature.

The Program will continue to lend resources to the major three-year Kellogg Foundation grant received by the Institution in 1982 that is enabling the Smithsonian to improve and expand the educational role of museums nationwide. It is hoped that this grant will be extended for two more years.

To help broaden the composition of membership, active promotional efforts to minority members of the community will continue to be made, including advertisements in relevant publications and direct mail campaigns. The sellout performance of the Chinese Traditional Orchestra, planned to complement the opening of Treasures from the Shanghai Museum: 6,000 Years of Chinese Art at the National Museum of Natural History, is an example of such an effort--in this case augmented by funds from the Smithsonian Educational Outreach fund and the NMNH. The success of the "Tuesday Mornings at the Smithsonian" senior citizen lecture series may lead to expanded daytime activities for those who can more easily participate during daytime hours. Efforts to reach more of the area's young professionals are being undertaken.

During FY 1985, the entire office should be computer-automated to facilitate speedier production of publications and more efficient registration and membership activities.

The Program will pursue ongoing efforts to acquire more office, classroom, and performance space. While addition of the new Education Center in the Quadrangle will provide some relief, as Program audiences grow and more performing arts events are sponsored, demand for now badly needed large lecture/performance spaces will increase.

Office of Membership and Development. The nature of corporate and foundation involvement in art and culture has been changing as a result of the policy of the current administration which calls for the private sector to increase support to various human and social services. Competition for art and cultural funds is increasing. The case for contributions to the Smithsonian, therefore, now requires greater and more continuous effort, and these conditions can be expected to persist well into the future.

As a result, several measures are now being planned. These include the preparation of a general brochure which will thoroughly present the

Institution's needs for a wide variety of private support, making clear the historic relationship with federal appropriations. With the Quadrangle fund-raising ending, attention will be directed to the needs of the other bureaus and to renewed emphasis on the development of deferred giving instruments such as the Pooled Income Fund, Unitrust, Annuity Trusts, etc. The staff is being expanded to allow a more personal approach to soliciting specific project sponsorships form foundations, corporations, and individuals. Finally, a capital campaign for expansion of the Cooper-Hewitt Museum, now in planning, will be carried out.

Smithsonian Magazine. Although the Magazine's management is justifiably cautious about the ebb and flow of fashion in publishing, it also expects that the demand for its product will remain strong, with an annual financial surplus estimated at $\$ 11,000,000$ to $\$ 12,000,000$ over the next few years. It is primarily from these funds that the Board of Regents has been able to budget for the recently approved Regent's program for acquisitions, scholarly studies and educational outreach projects, to fund certain expenses previously met with federal appropriations, and to set aside sums each year for the enhancement of the Institution's endowment. The Magazine will continue to produce a high quality product and to be supported entirely by the trust revenues which it generates. New growth in subscribers is expected to average 25,000 a year from the present level of about $2,000,000$. If required because of inflationary cost increases associated with production and mailing, subscription rates may increase in future years.

With continued good performance by Associate Programs, revenues should increase from current levels of about $\$ 72,000,000$ to $\$ 106,000,000$ in FY 1990, with net income from these activities projected at about $\$ 14,000,000$. Detailed expense projections appear in Appendix I.

## BUSINESS MANAGEMENT ACTIVITIES

This section covers plans, anticipated changes, and resource estimates for selected auxiliary activities conducted under the auspices of the Business Management office. These revenue producing activities include the Museum Shops, Mail Order Division, Concessions/Food Services, and Parking operations. The revenue-producing activities of the Magazine, Smithsonian Press and Traveling Exhibition Service are separate from the Business Management Office, and are presented in appropriate chapters and tables corresponding to the organization of the Institution and the FY 1986 budget submission.

The operations described in this section, like the Institution's Associates Programs, are an effort to offer the public a diverse range of services, to make the Smithsonian more accessible, and to enhance the educational experiences generated by exhibits and other activities.

## Current and Projected Resources

In FY 1984, these trust-funded operations will have revenues totaling some $\$ 27,700,000$ and 264 employees. As a group they generated $\$ 4,900,000$ in unrestricted net income for the Institution after cost of sales, payroll, and other operating expenses. By FY 1990, gross income from these activities is expected to increase by approximately $\$ 15,500,000$ with a net gain of approximately $\$ 7,200,000$ being made available for application to various activities and programs of the Institution.

Full-Time Employment
FY $1984 \quad$ FY 1990

Unrestricted Funds (\$000s)

$$
\text { FY } 1984 \quad \text { FY } 1990
$$

INCOME:

| Business Management Ofc. | \$ | 105 |
| :--- | ---: | ---: |
| Museum Shops | $\$ 1950$ |  |
| Mail Order Division | 10,895 | 19,800 |
| Concessions/Food Services | 1,465 | 19,200 |
| Parking | 1,285 | 1,825 |
| $\quad$ Total | $\$ 27,715$ | $\$ 43,275$ |

## EXPENSES:

| Business Management ofc. | 5 | 5 | \$ 320 | \$ 415 |
| :---: | :---: | :---: | :---: | :---: |
| Museum Shops | 162 | 182 | 12,565 | 18,100 |
| Mail Order Division | 48 | 56 | 9,095 | 16,800 |
| Concessions/Food Services | 1 | 1 | 395 | 150 |
| Parking | 17 | 17 | 475 | 625 |
| Total | $\overline{233}$ | $\overline{261}$ | \$ 22,850 | \$ 36,090 |
| et Gain |  |  | \$ 4,865 | \$ 7,185 |

Business Management Office/Product Licensing. In addition to the administration of the business activities listed below, this office is responsible for the product licensing program which makes reproductions and other products closely related to the Smithsonian collections available for purchase by individuals throughout the country, through licensing agreements with various manufacturers.

Museum Shops. The Smithsonian has provided sales desks since the 1860s, but substantial sales results are a recent development. Centrally managed museum shops are located in the Museum of American History, the Museum of Natural History, the Arts and Industries Building, the Air and Space Museum, the Hirshhorn Museum and Sculpture Garden, the Museum of American Art, the Portrait Gallery, the Renwick Gallery, and the Museum of African Art. A much expanded and modernized shop was opened in the Museum of American History during FY 1984.

Items offered for sale in the museum shops are selected to meet special requirements. Each item must expand the educational value of an individual's visit, relate to the collections, be appropriate to the museum where sold, and conform to high standards of quality and taste. Catalogues and other publications derived from exhibition themes and subjects, including works by Smithsonian scholars, are important to the museum shops. Other items include reproductions of artifacts, craft products, and educational games and toys for children.

Mail Order Division. Formed in 1975, the Mail Order Division produces several catalogues each year. These catalogues are sent to Associates and offer special items selected to reflect Smithsonian collections and programs. High standards of quality, taste, and educational value are maintained. As many as 300,000 catalogue orders can be processed annually through the Division's receiving and shipping center in Springfield, Virginia.

Concessions/Food Services. Through concession arrangements, the Institution provides visitors with restaurant facilities and recorded tour rental systems in the major Smithsonian museums. An old-fashioned ice cream parlor is also operated by a concessionaire in the Museum of American History. Other concessions include the popular carrousel and popcorn wagons on the Mall during the spring and summer.

Parking. Parking revenues are generated by the parking garage located under the Air and Space Museum. Supplemental fees are charged to Associates and the public parking on other Smithsonian lots during weekends.

## Future Year Prospects

In the period from FY 1984 to FY 1990, the primary focus in the Business Management activities will be on improving the quality of goods and services offered to the public as well as the operational efficiency of the business activities. Expanded program activity will be associated primarily with the opening of new museum shop facilities in the Quadrangle replacing the existing shop of the National Museum of African Art, as well as the renovation and expansion of existing facilities in the National

Museum of American History, the opening of new restaurant facilities in the National Air and Space Museum to improve access for the public, and increased efforts in the area of product licensing. As in the past, high standards for the quality and value of goods and services will be maintained. Detailed projections appear in Appendix I.

# ADMINISTRATIVE, FINANCIAL AND <br> OTHER SUPPORT SERVICES 

Organization units described in this chapter include central management functions provided by the Office of the Secretary, Under Secretary, Assistant Secretary for Administration, General Counsel, Treasurer, Congressional Liaison, and Director of Facilities Services. They also include the following specialized administrative and technical offices: Accounting and Financial Services, Audits, Contracts, Equal Opportunity, Grants and Risk Management, Information Resource Management, Management Analysis, Personnel Administration, Printing and Photographic Services, Programming and Budget, Public Affairs, Special Events, Supply Services, and Travel Services. Also included is the International Exchange Service reporting to the Assistant Secretary for Administration.

They also consist of three major facilities offices: Design and Construction, Plant Services, and Protection, with primary orientation to the physical plant and its contents and to safety and health services for visitors and staff. To be consistent with budget presentations, resources associated with the Office of Horticulture and South Group Building Management are included in the tables of this chapter as part of physical plant services. These latter two organizations are supervised by the Assistant Secretary for Museum Programs.

These central administrative, financial, technical and other support services provide overall planning, policy determination, direction, and leadership to the Institution; management of its resources; and evaluation of its work. These units furnish legal counsel, financial management, public information, and other administrative, professional, and technical services required to support the Smithsonian's programs, to maintain, operate, and protect its physical plant; to perform health and safety services; and to assure that the Institution complies with all appropriate laws and regulations and is fully accountable for its actions.

## Current and Projected Resources

These organization units had FY 1984 resources totaling about $\$ 67,500,000$ (including about $\$ 15,000,000$ for utility, communications, and rental costs) and 1,549 full-time employees. Of this total, approximately $\$ 58,000,000$ and 1,366 full-time employees are provided from appropriated funds and $\$ 9,400,000$ and 183 employees are allocated within the Institution's nonappropriated trust fund budget. A breakdown of resources (before application of overhead recovery) follows for FY 1984 and projected FY 1990:

|  | FY 1984 |  | FY 1990 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Funds |  | Funds |  |
| Subgroups | FTE | (\$000s) | FTE | (\$000s) |
| Central Management Offices |  |  |  |  |
| Federal S\&E | 40 | \$ 1,888 | 41 | \$ 2,041 |
| Trust Funds | 24 | 2,254 | 25 | 3,219 |
| Specialized Administrative and Technical Offices |  |  |  |  |
| Federal S\&E | 214 | 9,891 | 242 | 11,680 |
| Trust Funds | 146 | 5,919 | 154 | 7,021 |
| Facilities Offices |  |  |  |  |
| Federal S\&E | 1,112 | 46,320 | 1,472 | 64,169 |
| Trust Funds | 13 | 1,268 | 18 | 1,876 |
| Total | $\overline{1,549}$ | \$67,540 | $\overline{1,952}$ | \$90,006 |

Unrestricted trust funds are allotted to the management and support units to achieve an appropriate balance of federal appropriation and trust fund support in these units, since they serve the entire Institution. Primarily, these funds are used for personnel who perform assignments similar to those of staff paid from appropriated funds. Several support units administer unrestricted trust funds for more specialized purposes. The Office of Printing and Photographic Services receives income from the sale of photographic materials to the public. The computer center of the Office of Information Resource Management and the audiovisual unit of the Office of Plant Services operate on a cost recovery basis by charging users for the services provided.
Future Year Prospectus
Major emphases of the administrative, financial, and other support offices over the planning period may be grouped in three categories: the development and maintenance of the physical plant; improvements to the management of information and continued strengthening of internal controls and accountability systems; and provision of adequate security, safety, and health systems.

The major facility event will be the completion in 1986 of the Quadrangle project now under construction with public opening of its museums and other education resources in 1987. Administrative, financial, and support costs identified to date associated with Quadrangle operations are contained in bases of the participating organizations, and are aggregated in Table 5. Shortly after completion of the Quadrangle it is anticipated that the General Post Office Building will be repaired and restored and in use for museum and other public purposes. New facilities to support basic science research and public education are projected for several of the Institution's field activities. Work will continue in the annual program to provide adequate public and support facilities for the National Zoological Park, and the Institution will be diligent in maintaining and upgrading its physical plant to guard against deterioration, to
improve energy efficiency, to provide for health and safety requirements, and assure that spaces meet Program needs. Details on the Smithsonian's capital program appear in the Facilities Planning, Construction, Restoration and Renovation chapter and the Beyond FY 1990 chapter of the Prospectus.

Efforts will continue to strengthen information and other management systems to aid in the effective and efficient support of the Institution's operations and to assure adequate control and accountability as a public responsibility. In the area of automation, an Information Resource Management Office has been established and is working on a program to identify and solve information management problems in ways that will unify processes in the total organization. Continued attention will be given to internal controls and management reviews of important areas of the Institution's work and the assessment and correction of potentially vulnerable areas of operations. Such activity will be examined by the Board of Regents and its Audit and Review Committee.

Security, safety, and health programs will receive continuing attention in both the operating and construction budgets. Guard and other security personnel will be added based on contiruing surveys to meet the needs of new facilities and to provide a more acceptable level of coverage in present public and other spaces for the protection of facilities, natural areas, collections, visitors, and staff. Over the planning period, it is anticipated that the Institution's proprietary alarm system, having been installed and tested in the Museum Support Center, will be extended to other buildings on the Mall and elsewhere. Simultaneously, the program of upgrading alarm and other security equipment and devices will be completed. The conversion and elimination of nitrate film materials from Smithsonian collections for safety reasons will be completed and substantial progress will have been made in the elimination or containment of asbestos conditions. An occupational health Program for the Institution's employees will be in place.

Operating budget resources required to meet these priority objectives and to sustain adequate levels of operational support by the organizations in the administrative, financial, and other support category may approach $\$ 90,000,000$ in FY 1990 from the FY 1984 level of $\$ 67,500,000$. Detailed protections for centralized, specialized and technical, and facilities offices appear in Appendix I.

## FACILITIES PLANNING, CONSTRUCTION, RESTORATION AND RENOVATION

The Smithsonian's responsibility for its museum buildings and other facilities requires a continuing program of repairs and maintenance (some of which is accomplished by staff with funds provided in operating budgets), renovations and restorations, and new construction. The objectives of this program are to provide appropriate, safe, and accessible facilities for research, education, and care of collections. Federal appropriations are the primary source of funds for this work, but, starting with the funding of the original Smithsonian Institution Building, other sources of funds have at various times become available for particular projects.

Beginning in the mid-1970s, the Smithsonian established improvement of its facilities and their operation as one of its highest priorities. This decision to emphasize building repairs and improvements through the budget process reflected the Institution's great concern for the condition of its buildings, many of, which date back to the turn of the century, as well as the realization that many more millions of dollars were required each year for this purpose.

Considerable progress has been made in determining the extent to which additional facility support is required. A number of critical projects have been completed and a number of other major projects have been started. These projects include periodic work such as roof replacement, terrace waterproofing, replacing heating and air conditioning equipment, fire detection and suppression improvements, etc. These and other repair and improvement requirements are estimated currently to cost about $\$ 143,280,000$ from FY 1986 through FY 1990.

Redevelopment of the Zoological Park began in 1970 and steadily accelerated to a point where now only several improvement and exhibition projects remain. About $\$ 39,000,000$ of work will be accomplished through FY 1985 and about $\$ 23,260,000$ of work is planned through FY 1990. At the Conservation and Research Center at Front Royal, a facility master plan has been adopted which provides a renovation and development program, much of which can be accomplished in the next five years at an estimated cost of about \$7,385,000.

The Smithsonian's five-year construction program which follows is highlighted by an exciting project to develop on the Mall a new building for the Center for African, Near Eastern and Asian Cultures. In addition, programs are outlined for the Whipple Observatory, the Environmental Research Center, the Tropical Research Institute, the,Air and Space Museum, the Old General Post Office Building, and Mall administrative support facilities.

# Construction, Renovation and Restoration Summary FY 1986-1990 

(\$000)
(Appropriated and Nonappropriated)

| Construction | $\$ 170,450$ |
| :--- | ---: |
| Zoo (Rock Creek \& Front Royal) | 41,295 |
| Restoration \& Renovation | 143,280 |
|  | $\$ 355,025$ |

## Construction

## Quadrangle Development

Public Law 96-36 signed by the President on July 20, 1979 authorized planning for development of the Quadrangle. In FY 1982, \$960,000 was appropriated to complete planning and design for a Center for African, Near Eastern, and Asian Cultures within 4.2 acres of land bounded by the Smithsonian Building, the Arts and Industries Building, the Freer Gallery of Art, and Independence Avenue. This project, including a connecting link and modifications to the Freer Gallery, is estimated to cost $\$ 75,000,000$, and is being financed equally between government and private sponsors. An amount of $\$ 36,500,000$ was appropriated in FY 1983 to allow the Institution to construct a building in the Quadrangle. Because a very favorable construction contract was awarded by the General Services Administration, the Congress in FY 1984 reduced the construction appropriation by $\$ 8,000,000$. Legislative language accompanying this reduction allows the Institution to make future properly justified requests necessary to bring this project to fulfillment.

The Quadrangle building will include exhibition galleries and supporting museum facilities for proper display of unique collections of the Museum of African Art, as well as for an expansion of collections of Near and Far Eastern art to be known as the Sackler Gallery. There will also be space for the Smithsonian Institution Traveling Exhibition Service, expanded public education facilities, as well as a much needed International Center for special exhibitions and symposia. The joining of these activities and programs in one area will enable the Institution to apply, in a coordinated fashion, its major resources to benefit millions of visitors who travel to Washington each year. It will provide, as well, an opportunity for foreign nations to present their most important cultural accomplishments to this same audience.

Completion of the Quadrangle building is expected in 1986, and opening is scheduled for 1987. In the FY 1986 budget request, the Institution is seeking restoration of the $\$ 8,000,000$ rescinded to provide for furnishings and equipment necessary for full use of the new building.

Operating costs for those units expected to occupy and support the facilities are aggregated and contained in Table 5 of this Prospectus.

## General Post Office

Since 1958, when the Institution acquired the Patent Office Building, it has been interested in obtaining the General Post Office Building, which is immediately across F Street and further bounded by 7th, 8th and E Streets. 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. The General Post Office (the fifth oldest Federal building in Washington, D.C.) is proposed to be used for the expanding 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.

Being assured of continued growth of collections and public programs at the Patent Office Building, the Institution has made known to the General Services Administration its long term requirement for space at the General Post Office. Located across the street and connected by a tunnel under F Street, this landmark structure would be expected to meet the needs of these three bureaus well into the next century.

The General Post Office 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 art corridor along 8 th and 7 th Streets that has been encouraged by the Pennsylvania Avenue Development Corporation. A specific program has been developed for the use of the building by the Museum of American Art, National Portrait Gallery and the Archives of American Art. Based on this program a total project cost of $\$ 40,000,000$ has been estimated.

Preserving this historic landmark and converting it to public purposes will require a comprehensive program that must meet the special requirements of 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 will include replacing the existing roof; restoring all of the original interior and exterior architectural finishes; razing the courtyard building and glass roofing the entire courtyard area; replacing the windows with thermopane 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 fluorescent 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.

Legislation is pending to authorize transfer of the building to the Smithsonian without reimbursement, contingent on GSA securing suitable quality space for the relocation of the current occupant, the US International Trade Comm. Action on the transfer is expected the fall of 1984. In anticipation of favorable action to give the General Post Office Building to the Smithsonian, the Institution is requesting an amount of $\$ 3,500,000$ in

FY 1986 for design, and plans to request $\$ 36,500,000$ in FY 1987 to renovate, repair and convert the building for public use.

Operating costs associated with programs and maintenance when the building is in use are being examined now and are currently expected to amount to around $\$ 4,900,000$ in FY 1984 dollars. This includes $\$ 2,900,000$ and 95 staff for program curatorial support and building maintenance for the three occupants along with base funds for exhibitions, education, collection and facilities management activities. It also includes an estimated $\$ 2,000,000$ and 80 positions for protection services, operating engineers and other plant support, and utilities. In addition, current estimates for one-time equipment and moving costs approximate $\$ 1,300,000$. These projections are being refined and are not contained in Appendix I tables.

## Science Facilities Development

The Institution is seeking from Congress 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 construction projects are as follows:

Smithsonian Environmental Research Center
Following a thorough program review and evaluation, the Institution on July 1, 1983, integrated the research programs of the Radiation Biology Laboratory and the Chesapeake Bay Center for Environmental Science. This merger is expected to strengthen present research activities and to afford greater efficiency and economy of administration. The former Radiation Biology Laboratory conducts basic research on the interaction of plants and sunlight and the mechanisms and processes controlled by light. The former Bay Center program conducts research on land-water relationships and ecosystems.

The Institution recently exercised an option to renew the lease for the Radiation Biology Laboratory's facilities at Rockville, Maryland, through 1985, and anticipates exercising a second option which would extend this lease through 1990. Past experience indicates that technically sophisticated laboratory space is acquired for lease only at significant expense, and with less than satisfactory results. Therefore, it is planned to consolidate the newly formed Smithsonian Environmental Research Center at the former Bay Center facility at Edgewater, Maryland, before the expiration of the lease period in 1990.

The Edgewater site includes about 2,600 acres including significant shoreline property on the Rhode estuary, marshes, forest, and former agricultural areas. Present facilities at the Edgewater site include a renovated dairy barn with a new laboratory wing addition, an education and dormitory building, and miscellaneous small buildings which provide for storage and vehicle and boat maintenance, and several trailers.

A thorough study of the Edgewater site and facilities is being conducted to determine best use of existing structures and to select an appropriate site for development of new facilities to accommodate the program consolidation. The first phase of this project was completed in late summer 1984.

An early assessment of need suggests that a modern laboratory building of approximately 60,000 square feet will be required, as well as construction of four scientifically equipped greenhouses and a wet laboratory with fresh and salt water tanks. Extensive access and utility improvements are also anticipated. The Institution is requesting \$2,400,000 in FY 1986 for planning and design and $\$ 24,600,000$ in FY 1987 for construction, of which $\$ 1,500,000$ would be for equipping the facilities. Little if any increase in operating cost above that which the two separate locations now experience is expected, and these are being estimated now.

## Whipple Observatory

Further development of facilities at the Whipple Observatory near Tucson, Arizona, is required to support expanded research activities associated with the installation of the Multiple Mirror Telescope. The Observatory is located on a 4,744-acre site at the 7,600-foot level of Mount Hopkins which is controlled by the U.S. Forest Service and reached by a limited-access secondary road that originates at the observatory administrative headquarters location in Amado, Arizona.

The present headquarters site is midway between the cities of Tucson to the north and Nogales to the south and offers easy access from a nearby interstate highway for visitors and for the delivery of research equipment and supplies. On the property is a one-level school building and a residence which have been converted to office use. There are also various automotive service, repair, and storage buildings with gravel parking and driveway areas.

The school building, leased from Santa Cruz County for about 15 years, serves as the base office and staging area for mountain research activities, and includes a small, informal Visitors' Center which has been remodeled to provide displays on the history of astronomy and audiovisual presentations describing Smithsonian research.

Because the County is reluctant to continue its lease arrangement, the Institution sought and received authority from Congress to purchase land in Santa Cruz County for the permanent headquarters of the Whipple Observatory. An amount of $\$ 150,000$ is included in the pending budget request for FY 1985, although it appears that the preferred sites may be priced well in excess of available authority. The architect/engineering firm which has been hired to develop a base camp master plan has also been asked to add a review of other possible sites to its scope of work. The potential may exist for a land transfer from the U.S. Forest Service to the Smithsonian to serve as a site for this activity. Smithsonian ownership of the property would allow construction of improved facilities in a planned and coordinated fashion that would respect the integrity of the neighboring community and protect the local environment.

The proposed new base camp will consist of administrative offices, a motor pool and exhibit facility. Administrative office space will provide for purchasing, fiscal, engineering, secretarial, and public information activities. The motor pool facility will support more than 60 vehicles, including buses and heavy machinery used for road maintenance. Enciosed motor maintenance shops are required because of the weather extremes, and space is needed for spare parts storage. A warehouse is also required for the secure storage of goods and equipment going to and from the Observatory. A small visitors' center will provide for displays and briefings about the activities being conducted by the Smithsonian. Appropriate paving will be required for pedestrian walkways, driveways, parking areas and motor pool areas. An amount of $\$ 4,500,00$ is being requested in FY 1986 for the design and construction of the base camp buildings totaling 25,000 square feet along with necessary site improvements, including hardstands, walkways, landscaping, and utilities. Funds will also be used to pave the road from the nearest highway to the new base camp to provide public access. Operating costs will be assembled and reviewed in the near future.

## Tropical Research Institute

The Smithsonian Tropical Research Institute (STRI) serves as a center for tropical studies carried out by the U.S. and the international scientific communities conducting in-house basic research, and is custodian of the largest protected area of tropical forest under direct United States care. To excel in each of these important functions, it is necessary to undertake over the next five years, a facilities program to address immediate needs whose detailed planning will be incorporated in a Master Plan now being prepared by an architectural/engineering firm. The first phase of this program was completed in late summer 1984.

The Institution has for many years maintained numerous wooden and other aged structures at a number of locations 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 in FY 1986 with a requested $\$ 6,500,000$ to construct a terrestrial laboratory at the Tivoli site in order to vacate current inadequate space at Ancon, also in Panama City, and for construction of a kitchen and dining room facility at Barro Colorado Island. The entire five-year plan is estimated to cost approximately $\$ 12,750,000$ and includes construction at the Naos and Galeta sites as well. Operating costs will be estimated in the near future.

Construction of a terrestrial laboratory would accommodate the present staff and students working in Building 235 at Ancon in Panama City. The Ancon structure, built before 1920 as a hospital laboratory, has inadequate wiring and plumbing and its hillside location precludes the development of adequate outdoor plant and animal facilities. By replacing this laboratory with a properly designed structure at the Tivoli site (the main headquarters complex), STRI could provide many of its staff with closer access to the library, increased logistical and support service efficiency, and increased security by decreasing the overall dispersal of STRI's extant facilities.

The terrestrial lab is needed to supply research facilities for approximately 12 staff scientists and 24 visiting scientists, fellows and assistants. In addition to the offices and laboratory spaces, the indoor facilities would include chemistry analytical labs, dark rooms, aquarium room, environmental control laboratory, instrument repair, computer equipment, chemical storage, reference collection storage and herbarium. External but connected to the main laboratory would be an insectary, an aviary, a Small Animal facility (for mammals, reptiles and amphibians) and a plant growing facility. Since this building would be the principal facility for the largest group of STRI scientists, it also should include a seminar space and small restaurant. The Institution is requesting $\$ 6,000,000$ in FY 1986 for design and construction of the Laboratory.

Barro Colorado Island is the most intensely studied tropical site in the world, and therefore serves as a magnet to attract scientists from throughout the globe. Facilities on the island principally date from the 1920 s and 1930 s and are heavily affected by tropical conditions. Accommodations must be provided on the island for both long and short term residents and day visitors. The present dining facility serves meals for up to 45 people three times a day. Current trends indicate that within two years the need will be up to 80 persons per day. The present kitchen is over thirty years old and the dining room structure dates from the 1930s. Although Restoration and Renovation funds in the amount to $\$ 35,000$ were used in FY 1984 to replace and upgrade deteriorated kitchen equipment, both buildings fail to meet the minimum modern sanitary conditions and they lack sufficient inside storage space and covered connections between food preparation and serving areas. In addition, both buildings are wooden and subject to continual termite attack and are difficult to fireproof.

The kitchen and dining room facility will be enlarged and designed to provide sanitary and efficient service to users. The design will reflect energy conservation, as well as the form, functionality and safety required of structures in the tropics. As proposed, the upper portion of the twostory dining room building will allow space for a multiple educational center. Flexible partitioning will allow it to be used for lectures, conferences, and symposia which occur at least weekly throughout the year on the island. An amount of $\$ 500,000$ is being requested in FY 1986 for design and construction of the kitchen/dining room facility.

## Air and Space Museum

Because of the size of air and space craft, even early craft that could be partially disassembled, it was considered uneconomical to provide collection storage space in the Mall building. Therefore, the Air and Space Museum has continued using temporary metal storage buildings at a 21 acre site at Suitland, Maryland, acquired by the Institution for this purpose in the mid 1950's. Periodically, since acquiring this facility, additional metal buildings have been constructed to a point now where both buildings and site are filled to near capacity. Also, during these intervening years, the Suitland area has been developed intensely, making transportation of large modern aircraft to the Air and Space facility, now known as the Paul E. Garber Facility, unfeasible.

Staff of the Air and Space Museum for the past four years have evaluated potential locations at or near airports in the Washington region that could accommodate storage and exhibition structures and permit relocation of aircraft from the Garber Facility, as well as receive by air transportation new objects such as the NASA space shuttle and a Concorde. This search resulted in the selection by the Museum of the Federal Reservation at Dulles International Airport, Virginia. Preliminary and informal discussions with the Federal Aviation Administration indicate that sufficient underdeveloped acreage and general interest exists to warrant serious consideration of this location and further study and planning.

The Institution, following approval of conceptual development planning by its Board of Regents, anticipates that further feasibility exploration and preliminary planning will be pursued in the future. Beyond this stage of development, the Institution foresees that four aircraft type hanger buildings of approximately 100,000 square feet each might be constructed over a ten to fifteen year period. Amounts of $\$ 1,200,000$ in FY 1987 and $\$ 20,000,000$ in FY 1988 could be requested for design, site preparation, and construction of a first building as well as utilities and road improvements for the site. Operating costs will be estimated in the near future.

## Mall Administrative Support

The present concept of an in-town Smithsonian Service Center was developed in 1975, when a number of Institution support activities located at various leased buildings in Washington were consolidated at a single leased location in 1111 North Capitol Street, to provide efficient support to museums and other bureaus principally located on the Mall. In selecting the present Service Center location, proximity to the Mall was a key factor inasmuch as the movement of personnel and museum-related objects between the Service Center and the Mall occurs at a relatively high frequency.

Support activities included in the Service Center can be characterized as being of the light industrial type. A major activity is Exhibits Central where museum exhibits are developed and constructed from basic materials such as lumber, plastic, paper, etc. Exhibits Central facilities include drafting, model construction, shops for woodworking, plastics, silk screening, painting, fabrics and welding.

Other major activities include the assembly, processing, packing, crating and shipment of outgoing traveling exhibits for the SI Traveling Exhibition Services (SITES), the receipt, storage and issue point for general office and museum and building operation and maintenance supplies and equipment, a printing and duplicating plant, the distribution center for the Smithsonian Press, and limited holding areas for museum objects from several of the museums.

With the development of a Service Center concept, the Institution leased the presently used facility at 1111 North Capitol Street. The current lease for the Service Center expires in the fall of 1991. During the term of the present lease, the building was sold to a development firm. In discussions with principals of the firm, it has been made clear to

Institution representatives that the objectives of the current owners include redevelopment of the property to a higher and better use. It is noted that the neighborhood is currently in a transition stage, moving from light industrial use to probably office building or comparable use. Quality office buildings have been constructed on North Capitol Street several blocks south of the 1100 block, with substantial indication that this growth will continue to the north in a relatively short period of time.

Authorization will be sought to design and to construct replacement space for those activities now at 1111 North Capitol Street together with those other central support activities now on the Mall which are expected to outgrow their present space or whose space may be required for museum programs. Presently, it is estimated that a Service Center of 250,000 gross square feet be required. The Institution plans to request in FY 1987 $\$ 9,000,000$ for site acquisition and design, and in FY 1988, \$18,000,000 for construction.

The Institution found it necessary about 1972 to lease office space at L'Enfant Plaza on lOth Street, S.W., about 2 blocks from the Castle building. This was occasioned by a consolidation of scattered leased spaces and the need to free up on the Mall additional space for public purposes. Presently, the Institution occupies about 55,000 square feet at L'Enfant Plaza and 12,000 square feet at Capitol Gallery located about 2 blocks from the Air and Space Museum, on 6th Street, S.W.

The Institution now is reassessing its use of all Mall and leased space, including the effects on this space resulting from occupancy of the Museum Support Center and anticipated completion of the Quadrangle project. In expectation that some leased space will continue to be required, the Institution needs to consider purchase or construction of office space near the Mall in order to reduce the longer term budget effects of continued rental escalation. In 1972, space at L'Enfant cost about $\$ 8.50$ per square foot and now costs $\$ 20$ per foot, and $\$ 22$ per foot at Capitol Gallery. Assuming that a purchase or construction cost could be amortized over a 10 to 20 year period at yearly expense not exceeding current annual rental costs, then, these rental funds could eventually be put to other program purposes. The Institution plans to request $\$ 1,200,000$ in FY 1988 and $\$ 10,800,000$ in FY 1989.

## Suitland Museum Development

With the opening of the Museum Support Center, the Smithsonian realized the first step in its plan to concentrate off-Mall storage of collections on Institution-owned properties in Suitland, Maryland. Plans for further development of those properties include expansion of storage for the Museum of Natural History, and provision of similar facilities for the History and Art museums and the Smithsonian Institution Libraries.

The original plan for the Museum Support Center envisioned a need to expand the storage capacity for the housing of natural history artifacts in a secure and climatically controlled environment. The Institution projects that by the early 1990s the Museum of Natural History will require the
additional space to accommodate its continually expanding collections, and the Smithsonian plans to request $\$ 8,000,000$ in FY 1990 for the construction of the fifth pod of the MSC to meet this need.

The Institution has also identified a need to provide environmentally controlled secure storage for the holdings of the S.I. Libraries and Archives, to alleviate pressures on the space presently occupied from increasing needs for public space on the Mall and the continued growth of the collections. Both activities maintain extensive reference materials, used continually by the research staff of the Institution and shared with other scholars as well. Utilizing modern data communications systems, these materials may be retained at a remote location where environmental conditions and security measures can be maintained to ensure continued preservation of these valuable research tools. Establishment of a Library and Archival Support Center at Suitland would provide the storage and study space necessary, as well as space for the conservation of materials. The Smithsonian anticipates requesting \$9,000,000 in FY 1990 for construction of this facility.

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SMITHSONIAN INSTITUTION FIVE-YEAR CONSTRUCTION PROGRAM*

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| 3,500 | \$36, 500 |  |  |  |
| 2,400 | 24,600 |  |  |  |
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|  |  | 1,200 | 10,800 |  |
| \$24,900 | \$72,050 | \$41,200 | \$ 15,300 | \$17,000 |

${ }^{1}$ Funds in addition to those appropriated in Fiscal Year 1983 will be matched with Smithsonian trust funds, to provide for installation of the security system; moving costs and equipment and furnishings for public, administative and shop areas.
allowing for possible funding for planning and design
${ }^{3}$ A science facility planning and construction authorization bill was submitted to Congress in Fiscal Year 1984 , which includes base camp construction at Amado, a major laboratory building at the Tivoli, as well as improvements at other Smithsonian Tropical Rcsearch Institute facilitics in Panama, relocation of the research activities of the former
 Airport to rcplacc its buildings at Suitland. Total estimatcd planning and construction cost of this package for Fiscal Year $1986-1990$ is about $\$ 65.5$ million. Added funds would be needed for the National Air and Space Museum/Dullcs project in later years of about $\$ 45,000,000$.
${ }^{4}$ A facility to replace the leascd North Capitol Street administrative scrvice center.
${ }^{5}$ These projects are planned as future increments of muscum support facilities at Suitland.
${ }^{\text {O}}$ This project anticipates purchasc or construction of an office building near the Mall as a lcased office space.

## Zoological Park and Conservation Center

The original 1973 Zoo Master Plan included 41 projects at Rock Creek costing an estimated $\$ 118,000,000$. Since then, the program has been scaled down to 30 projects and approximately $\$ 78,250,000$ at the $Z 00$. This savings is due largely to the acquisition of the Front Royal site in 1975, which permitted a reevaluation of the Rock Creek development plan, eliminating many costly and space-consuming projects necessary for breeding and research. Projects that can be conducted more effectively at Front Royal will continue to be sited there and include nearly all major hoofstock breeding requirements, back-up housing for small primates and numbers of other small mammals, bird incubation and breeder functions, as well as holding facilities for long-term breeding programs. The Master Plan will be reviewed over the next year or so to reflect changes in program emphases.

## Zoological Park Redevelopment

Central Area Redevelopment: Construction of the new Ape House, renovation of the Reptile House and renovation of the Small Mammal House is complete (these projects total about $\$ 4,300,000$, appropriated in FY 1980), as well as construction of Monkey Island (FY 1981 appropriation of $\$ 1,840,000$ ). Except for minor improvements, redevelopment of the central exhibit area is complete.

Olmsted Walk: Beginning in FY 1985, the Olmsted Walk will be reconstructed and improved, with emphasis given to preserving and enhancing the natural and historical character of the park. The exhibits along the walk will be renovated to enhance the visitor's experience in viewing the animals. New surfacing materials for the walk, adequate drainage, new landscaping and shade trees, additional benches and drinking fountains, 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. Construction is estimated at $\$ 4,500,000$ phased over a threeyear period: FY 1985 (\$2,000,000), FY 1986 ( $\$ 1,000,000$ ) and FY 1987 ( $\$ 1,500,000$ ).

The first phase will concentrate on the section of Olmsted Walk from the Rock Creek entry up to the Small Mammal Building. This phase will create an identifiable pedestrian entrance at the Rock Creek side of the Zoo which will allow visitors a proper orientation point at the beginning of their visits. A new Gibbon facility, expanded waterfowl exhibit, enlarged lesser panda display and modified tortoise yard will be included in this phase. In addition, the main walkway will be modified to loop around in front of the Reptile and Monkey Houses by constructing a winding walkway more in line with the spirit of the original 0lmsted design.

The second phase of this program will renovate the opposite end of the Olmsted Walk which starts at the entrance on Connecticut Avenue. Scheduled under this phase is the widening of the sidewalk on Connecticut Avenue, constructing a low retaining wall and the addition of landscaping on the banks which flank the Zoo's pedestrian entrance and modification to the Connecticut Avenue vehicle entrance. At the entrance to the Education Building, a plaza will be created which will include an information kiosk.

Walkways adjacent to the existing Sable Antelope, Bongo and Dorcas Gazelle exhibits will be modified to provide access to the plaza.

The final phase, scheduled for FY 1987, will modify the Walk in the area just below the Education Building to the Small Mammal Building. The walk in this area will be renovated to provide the visitor with a better view of the animals. A third entry point to the Walk will be constructed in the area near the parking lot. This plaza will have an information kiosk which will provide the visitor with information about the $z 00$ and events of the day.

Health and Research: Renovation of the Zoo's existing veterinary hospital is scheduled for FY 1986. The mechanical systems in the building are over 15 years old and beyond economical repair. The air conditioning, heating and climate control systems will be replaced with modern equipment. The building's roof and incinerator also will be replaced. A hospital intensive care unit will be added and improvements to the surgery and radiology areas are scheduled. These changes will greatly improve clinical care for the 200 animals. An amount of $\$ 4,300,000$ will be requested in FY 1986 to support the design and construction costs.

Goats and Sheep Exhibit: A natural habitat for goats and sheep will be built south of the bird house between Cathedral Avenue and Rock Creek. The existing terrain is suited for these animals with only minor modifications. The construction of a series of exhibits in the area will permit the $Z 00$ to exhibit these animals in attractive facilities, including some Asian species that are little known or exhibited in this country. An amount of $\$ 60,000$ will be requested in FY 1988 and $\$ 600,000$ in FY 1989 for construction.

Savannah and Plains Animals. An exhibit of prairie and plains animals will be created on the present site of parking lot "B", located north of the elephant house. The area will be viewed from Olmsted Walk. The Zoo currently does not have exhibits on flat terrain which might simulate the openness of the African Savannah. Amounts of $\$ 100,000$ in FY 1986 and $\$ 1,000,000$ in FY 1987 will be requested for design and construction respectively.

Aquatic Habitats: With funding of $\$ 500,000$ appropriated in FY 1980, plans and specifications were prepared for construction of two of four planned exhibit areas within the aquatic habitats project. These two exhibit areas will house sea otters and penguins as feature species, surrounded by smaller corollary displays such as an exhibit of fresh water organisms. An amount of $\$ 1,200,000$ will be requested in FY 1987 to complete design of the remaining two exhibit areas (manatees and education/orientation). The construction cost for the four exhibit areas making up the aquatic habitat project is estimated at $\$ 12,000,000$; a request for an FY 1988 appropriation is anticipated.

Update of Master Plan and Related Matters. The National Zoo plans to update the original Master Plan over the next year or two, to incorporate exhibitions and new program emphases. Several exhibits under consideration include an invertebrate exhibit proposed for the basement of the reptile house and consisting of non backbone animals which represent the majority of the animal kingdom and have never been exhibited at the Zoo. Consideration
is also being given to providing introductory exhibits for visitors entering from the Connecticut Avenue gate. These will feature such animals as the hardy species of penquins and the Japanese macaques. Results of this review will be incorporated into future appropriate editions of the Prospectus.

Renovation and Repairs. In addition to the redevelopment Master Plan, the Zoological Park is responsible for a continuing program of major maintenance and repair of its real property (buildings, grounds, utilities and equipment). The Zoo has 60 separate structures of which 18 are major buildings. The current plant value is over $\$ 100$ million and over $\$ 1,000,000$ will be required annually for structural, mechanical and electrical repairs and renovation of the physical plant to support the Zoo's mission at a satisfactory level.

Conservation and Research Center
Small Animal Facility: The small animal facility was designed as a three-winged building. With funds appropriated in FY 1981, the 2,200 square foot center wing, which contains all support spaces, and the 17,190 square foot east wing, which houses small animals, including marmosets, three kangaroos, dik-diks, marsupial tiger cats, tarsiers, banded palm civets, otter civets and lesser red pandas, have been completed. An amount of $\$ 700,000$ appropriated in FY 1984 will be used to construct the west wing containing 10,800 square feet of space. The west wing will be used as a breeding facility and will house various small birds such as Bald Ibis, Red Bird of Paradise, Lesser Bird of Paradise, Gardner's Bower Bird, Bornean Great Argus Pheasant, Palowan Peacock Pheasant, Jobi Island Grown Dove and Blue Crowned Pigeon. The building also will serve as a backup holding facility for the Rock Creek collection.

Veterinary Hospital: An amount of $\$ 1,400,000$ has been received in FY 1984 to construct a 14,000 square foot veterinary hospital which is urgently needed at the Conservation and Research Center. The hospital will include x-ray and treatment rooms, surgical rooms, laboratories, a pharmacy, animal wards, autopsy and food preparation rooms and administrative and storage areas. The hospital will have a number of special requirements which contribute to the cost of construction. Among these are ceramic tile in the surgical area, lead lining in the x-ray preparation area and doors of individualized specifications in the surgery, treatment and other areas.

Maintenance Facility. The maintenance trade shops that serve the Conservation and Research Center will be consolidated into one area for improved operations, security and accessibility. A group of supply buildings will be renovated and modified to serve this function, providing a separate service entrance and parking for the Center's motor pool operations and off-site employees. Amounts of $\$ 75,000$ and $\$ 850,000$ will be requested in FY 1986 and FY 1987 respectively, for design and construction. The space vacated by the present shops will be used to house student research activities.

Large Hoofed Stock (pachyderms): This project will provide a facility to house large hoofed stock for research and breeding. The site chosen is well suited for this activity and will not be labor intensive as to support requirements. The facility will permit the zoo to pursue actively breeding
programs for such endangered groups as rhinoceroses and elephants. An amount of $\$ 2,300,000$ for design and construction will be requested in FY 1986.

Primate Facility: This facility will enable the Center to expand the variety and number of primates accommodated in research programs while providing better protection of animals from communicable diseases to which these species are highly susceptible. The building will be located in the core area, close to the small animal facility and veterinary hospital. Amounts of $\$ 170,000$ and $\$ 1,700,000$ are estimated for design and construction, and will be sought in FY 1986 and FY 1987 respectively.

Administrative Facility: This facility will centralize all administrative functions for the Center in an area near the main entrance and will establish a formal reception area for visitors as well as a central point for deliveries. Amounts of $\$ 100,000$ in FY 1989 and $\$ 1,500,00$ in FY 1990 will be requested for design and construction respectively.

Staff Housing: A number of single-family staff residences at the Center are needed to assure staff proximity to ongoing research projects and to strengthen security for the 3,150 acre facility. An amount of $\$ 30,000$ for design will be request in FY 1990. Actual construction funds will be requested in FY 1991.

Road Improvements/Extensions. This project includes providing access to new facilities with existing roads, and extending paved roads to outlaying animal facilities. The work is expected to cost about $\$ 660,000$ and is planned for Fiscal Years 1988 and 1989.

Renovation and Repairs. The Conservation and Research Center includes 89 facilities of various types, containing approximately 236,000 square feet of space, two and one-half miles of paved roads, 20 miles of jeep trails and 30 miles of fences and all related utility systems (sewer, water, electricity). This account is used to complete necessary repairs to structural, mechanical, and electrical components of the Center's physical plant, and is expected to cost about $\$ 700,000$ per year in the end of this planning period.


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IV. Renovation, Repairs \& Inprovexenta

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Staff Housing
Subtotals
Hoofed Stock Barn
Small Anfmal Facility
Veterinary Hospital
Maintenance Facility
Prymate Facillty
GRAND TOTALS
/1 Excludes \$275,000 for planning appropriated in FY 1973.
$\frac{12}{13}$ Onnstruction is schetuled to begin in FY 1991. Actual construction costs are estimated at $\$ 125,000$ appropriated in FY 1975 under Restoration and Renovation of huildings Acoount.

## Restoration and Renovation

The Restoration and Renovation of Buildings (R\&R) account is used to fund building repairs, alterations and improvements, as well as the construction of additions to existing facilities and minor new facilities. Substantial annual funding is required in order to assure preservation and effective operation of the Institution's buildings; to provide a safe environment for visitors, staff and collections; and to meet program objectives.

The Institution's buildings and other facilities (other than the Zoo) consist of fourteen museums and galleries (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. Also included are facilities at Suitland, Maryland, for the preservation and storage of collections, and display of air and spacecraft; centers for biological research, conservation, and education in Panama, and on the Chesapeake Bay, in Maryland; an oceanographic research station at Fort Pierce, Florida; a center for astrophysics in Cambridge, Massachusetts, and the Whipple Observatory on Mt. Hopkins, near Tucson, Arizona; and a number of administrative, storage, reference, distribution, and other supportive facilities primarily in leased space.

Since many of the Restoration and Renovation projects requested each year require one or more years of planning and design before a bid solicitation can be issued, it is necessary to forecast and organize this work several years in advance of seeking appropriations. In the early 1970's, the Institution's annual R\&R budget totaled several million dollars and has increased as of FY 1985 to a Level of about 13 million dollars. While this level of funding will continue to meet a wide range of Institution repair and improvement requirements, it is not sufficient to accomplish a number of major projects such as terrace replacements estimated at $\$ 3$ million to $\$ 5$ million each, and heating, ventilation and air conditioning system replacements that range in estimated cost from $\$ 8$ million up to more than $\$ 26^{\circ}$ million at the Natural History Museum.

In the past, the Institution has attempted to phase over several years projects of significant magnitude. While a number of these planned projects will continue to be phased in order to keep buildings and programs in operation, it is not practical or economical to phase these projects over, say, a five to ten year period. Such phasing would increase significantly the estimated cost and re-bidding each project each year, would be costly, difficult to manage, and extremely complex to affix responsibility and liability upon completion.

The FY 1985 R\&R appropriation request of $\$ 13,750,000$ reflects the Institution's commitment to acquiring and sustaining a level of funding consistent with the size, diversity, and age of Smithsonian facilities and known work requirements. The following major projects are planned for FY 1985: roof and facade repairs at the American History Building ( $\$ 710,000$ ) and the Arts and Industries Building ( $\$ 2,500,000$ ) ; continued implementation of the fire protection master plans for the Natural History

Building ( $\$ 500,000$ ) and the American History Building ( $\$ 200,000$ ); continued removal of asbestos insulation located in several Smithsonian buildings ( 400,000 ) ; continued implementation of heating, ventilating and air conditioning and energy conservation improvements in the American History Building ( $\$ 1,800,000$ ) ; and implementation of an energy conservation plan at the Air and Space Museum ( $\$ 250,000$ ) ; renovation of Building 19 at the Paul E. Garber Facility in Suitland, Maryland ( $\$ 660,000$ ) ; construction of an annex for the Anacostia Neighborhood Museum at Fort Stanton ( $\$ 400,000$ ) ; construction of a dormitory at the Tropical Research Institute's Barro Colorado Island site ( $\$ 825,000$ ); and continued renovation to various buildings to accommodate the proprietary security system.

General Repairs and Improvements. Funds requested in this category support projects that do not lend themselves to discrete categorization, as well as minor emergency repairs, such as equipment failures or structural defects that cannot be anticipated and that arise from heavy use, extreme weather conditions, or other circumstances. Examples of projects in this category are interior repairs to floors, ceilings, partitions, doors and building hardware; space renovations which would create additional or more effective space for program activities; renovations of exhibition and other public space; repairs to roads and walkways; elevator and escalator repairs; the lighting improvements. A total requirement of approximately $\$ 6,140,000$ is anticipated for this planning period.

Facade, Roof and Terrace Repairs. Maintaining the integrity of the exteriors of all Smithsonian buildings is critical to preventing major structural damage and deterioration due to age and weathering, and to ensuring a safe environment for visitors, staff, and collections. Energy conservation also demands water and weathertight exteriors. Work in this category includes a variety of major projects, such as roof replacement, repointing and recaulking facades, plaza resurfacing, exterior painting, and window repairs. Requirements that fall under this category of repairs have become apparent in some of the Institution's newest buildings as well, and must be corrected. In addition to major projects, a scheduled program of maintenance and upgrading to protect building exteriors must be performed annually.

Work is continuing on the renovation of the exterior the Arts and Industries Building. Completion of the roof replacement, repointing of the masonry facade, extensive window replacement, and replacement of gutters and downspouts is expected in early 1987. Funds of $\$ 6,430,000$ appropriated since FY 1981 are being used to continue exterior restoration on a quadrant-by-quadrant basis. Amounts of $\$ 1,500,000$ and $\$ 250,000$ will be required in FY 1986 and 1987 respectively, in order to complete this project.

Progress is being made in the renovation of the facade of the 120 year old Renwick Gallery Building. The Institution received approval from the Commission of Fine Arts and the Joint Committee on Landmarks for the use of precast concrete in lieu of natural stone 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 $\$ 5,450,000$ has been appropriated through FY 1984 and the sum of $\$ 500,000$ requested in FY 1985 will be used to complete this project.

Additional projects scheduled during this planning period include replacement of terraces at the Air and Space Museum and the Hirshhorn Museum, completion of roof replacement at the American History Museum, facade repairs and roof replacement at the Natural History Museum, skylight and roof repairs at the Freer Gallery and facade repairs and window replacement at the Smithsonian Institution Building. This and other work is expected to cost approximately $\$ 19,345,000$ between FY 1986 and 1990.

Fire Detection and Suppression System. The Institution is continuing to develop and implement plans for upgrading fire protection systems in all buildings in order to provide a level of safety consistent with today's standards and technology. Work in this category includes such items as the installation of heat and smoke detection systems, sprinkler and chemical suppression systems, and fire doors and walls. Improved systems are installed as exhibitions are changed, and fire retardant materials are used wherever possible.

The implementation of comprehensive fire protection master plans is in progress at both the Museum of Natural History and the Museum of American History. Construction includes the installation of upgraded sprinkler systems, new smoke detection systems, fire pumps, generators and control panels, and architectural modifications to create more efficient fire zones. A total requirement of approximately $\$ 8,405,000$ is anticipated for this planning period, of which about $\$ 5,000,000$ will be required for the Museum of Natural History and American History. Other fire protection projects planned for the next five years include the installation of additional sprinklers and smoke detectors in the Smithsonian Institution Building, installation of fire zones, emergency lighting and a smoke detection system at the American Art Museum and the Portrait Gallery. In addition, a fire protection master plan will be developed and implemented for the Air and Space Museum, and the master plan for the Arts and Industries Building will be revised to reflect changes in space use.

Access for the Disabled, Safety and Security, and Correction of Hazardous Conditions. Substantial progress has been achieved in eliminating architectural barriers at Smithsonian buildings. Several Smithsonian facilities still require additional modifications to meet recently updated standards for disabled person access. These projects are scheduled to be accomplished during this planning period.

The elimination of exposed asbestos insulation located in several buildings continues to be a high priority. An amount of $\$ 400,000$ is included in the FY 1985 budget request for this purpose, and approximately $\$ 2,500,000$ will be applied to the correction of this problem between FY 1986 and FY 1990.

Other projects in this category include completion of construction and installation of the new proprietary security system, replacement of tile in the Great Hall of the American Arts/Portrait Gallery Building; entrance modifications at the Natural History Museum; emergency telephone and lighting systems at the Air and Space Museum; and security lighting in the Mall. The total required during the planning period is approximately $\$ 7,305,000$.

Utility Systems Repairs and Improvements. Upgrading the heating, ventilating and air conditioning (HVAC) equipment and controls in Smithsonian facilities will contribute, more than any other factor, to the reduction of energy consumption. The HVAC systems in most buildings were designed with neither the goals of current energy standards nor the advantages of technologies that are now available. Major improvements are required, as well as minor maintenance and repairs, to achieve energy efficiency, to ensure reliability of existing systems, and to maintain environmental conditions necessary for the protection of the collection. Equipment requiring upgrading or replacement includes such items as air handlers, chillers, pumps, coils, fans, compressors, cooling towers, electronic controls, and exhaust and filtration systems. This category of work also includes associated electrical and plumbing repairs and improvements.

Based on the results of study and design efforts, major HVAC renovation projects and energy conservation improvements are planned for the next five years at the Natural History ( $\$ 21.9$ million), American History ( $\$ 6.3$ million), Arts and Industries ( $\$ 11.9$ million), and American Art/Portrait Gallery Buildings ( $\$ 5.9$ million). Energy conservation improvements also will be made at the Hirshhorn ( $\$ 1$ million), the Renwick Gallery ( $\$ 3.3$ million), the Cooper-Hewitt Museum ( $\$ 3.8$ million), and the Air and Space Museum ( $\$ 1.7$ million). Renovation of the electrical wiring in the Smithsonian Building will continue and improvements will be made to the lighting in the Great Hall and Lounge.

In response to the increasing need for automation of Smithsonian offices and for access to data base management systems, as well as projected uses in the near future of additional computer and electronic services for research, collections management, education and exhibition purposes, the Institution has developed a plan to interconnect the systems through a common communications pathway or master raceway system. Installation of such an interconnecting system will significantly reduce the costs of independently connecting individual systems as they are needed for various purposes, but will also provide a higher degree of interaction among the different kinds of systems, including data and word processing systems, sensing systems for energy management, an expanded telephone system, telexes and facsimile machines, and video systems for exhibits and educational purposes. The Institution is requesting $\$ 825,000$ in FY 1986 to begin installing a raceway system within and between eight buildings in the Mall area which will accommodate electronic requirements anticipated over the next ten years. An additional amount of $\$ 10.37$ million is expected to be sought through FY 1990, in order to extend the raceway into each of the eight buildings, to each work station, office or exhibit area.

Projects in the utility systems category are estimated to cost \$69, 290,000 from FY 1986 through FY 1990.

Other Projects: Included in this category are space modifications and renovations to accommodate changing program requirements, sometimes in conjunction with major roof and HVAC projects or other construction activities that offer improved office and collections storage space conditions. Renovations are projected during the planning period at the Museum of American History, the Museum of Natural History and the Arts and Industries Building
to take advantage of additional space available for program use by reduction of space needed for utility and mechanical systems and the expansion of program activities into new facilities, such as the Museum Support Center, Quadrangle and General Post Office Building. Also included in this category are projects at Suitland to modify metal storage buildings for collections management purposes, construction of a dormitory at the Whipple Observatory, greenhouse facilities and a day care center. Advanced planning funds will also be requested to enable the Smithsonian to prepare better cost estimates for future projects and to reduce the effects of inflation on construction costs by providing design capability prior to receipt of project appropriations. Total R\&R requirements in this category are estimated at \$32,795,000 through FY 1990.

A more detailed and comprehensive listing of R\&R appropriation requirements by facility is contained in the Institution's FY 1985 and FY 1986 Budget Request.
RESTORATION, RENOVATION \& OTHER CONSTRUCTION

| Fiscal Years | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | $\text { FY }{ }_{1}^{\text {Totals }} 1986-\text { FY } 1990$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RESTORATION \& RENOVATION |  |  |  |  |  |  |  |
| General Repairs \& Improvements | \$ 545 | \$ 545 | \$ 2,425 | \$ 900 | \$ 1,660 | \$ 610 | \$ 6,140 |
| Facade, Roof \& Terrace Repairs | 4,450 | 4,375 | 3,170 | 6,000 | 3,000 | 2,800 | 19,345 |
| Fire Detection \& Suppression | 1,465 | 1,970 | 2,155 | 1,505 | 1,500 | 1,275 | 8,405 |
| Access for Disabled, Safety \& Security \& Correction of Hazardous Conditions | 1,215 | 1,110 | 2,415 | 1,455 | 1,435 | 890 | 7,305 |
| Utility System Repairs \& Improvements | 2,785 | 6,605 | 9,460 | 14,830 | 20,665 | 17,730 | 69,290 |
| Other Projects | 3,290 | 10,020 | 7,305 | 4,700 | 3,600 | 7,170 | 32,795 |
| totals | \$13,750 | \$24,625 | \$26,930 | \$29,390 | \$31,860 | \$30,475 | \$143,280 |

## BEYOND FY 1990

There is merit to looking further ahead than just five years in communicating to OMB, Congress, and others the Institution's operating and capital objectives and in planning for resource levels to match the Smithsonian's basic growth aspirations. The Smithsonian must look ahead ten to fifteen years if it is to continue to be successful in meeting its responsibilities to the public, the museum and scholarly communities, and the nation. This chapter presents a brief summary of longer-range possibilities based on existing institutional policies, and projections to about FY 2000.

Emphasis on research, exhibition, collections management, and other basic programs, of course, will continue. Quality activities and services for the visiting public and Associate members are other basic aims and will be stressed. New buildings, where necessary, and careful attention to those now under the care of the Institution, require longer-range thinking if results are to be useful to the public. The most effective use of available federal and trust resources in achieving general objectives will continue to motivate overall management planning. As the planning period is extended, however, it becomes increasingly difficult to detail the varied opportunities and related management choices which will emerge. Nevertheless, it is possible to set down institutional desires, directions, and resources which can be realized if conditions external to direct management control permit. In interpreting materials contained in this chapter, it is important to highlight the following.

- A generally favorable economic situation is assumed to prevail over time. The Administration is predicting that inflationary pressures on the nation's economy will continue to lessen. For purposes of describing institutional plans beyond 1990, inflation is assumed to have only minimum influence.
. Essential levels of appropriations for capital and operating projects as outlined in the preceding chapters for years FY 1986-1990 will be forthcoming from the Executive and Congressional branches of government.
- Visitation will remain strong.
. Public acceptance of the Institution's various programs and products, and supporting trust funds generated through investments' Associates and auxiliary activities will continue to allow net proceeds to grow moderately and to be applied to Smithsonian objectives as approved by its Board of Regents.
- Future transfers to the Institution of historic buildings that might be preserved for Smithsonian use are possible, but the timing is not known. Likewise, it is not possible
to speculate on the availability of major new gift collections that might require special housing for display or other purposes.

Given these general assumptions, Smithsonian management predicts continued success through the turn of the century in developing resources to serve the public and the nation through its varied programs.

## Program Expectations

With regard to longer-run developments in programs, the Institution's activities have always spanned national and international interests, but in future years its multinational character should begin to flourish in an even greater fashion, and, in keeping with longer-run natural and cultural forces, help lead to a more singular world community.

The construction of the Quadrangle, now planned for completion in FY 1986-1987, is basically an effort to provide the Institution with appropriate and sufficient space to display the great art and history collections of Near and Far Eastern and African cultures. In the ensuing years, its programs will provide a window on the Mall for cultures now representing two-thirds of the world's population, spanning an area from Japan, through Asia, the Middle East, and Africa. The roots of these cultures run deep, and the contributions to man's development from these areas have been and will continue to be a pervasive force in the world. The Quadrangle and its programs will promote the long-run causes of international peace and understanding. While the content of the Institution's longer-range exhibition programs, as in the past, will focus on historical events important to the development of the nation, of Man and his culture, and be based on the latest findings and interpretations of the international community of historians and scientific investigators, in general, exhibitions can be expected over time to take on more of an international flavor, reflecting the interdependence of nations in pursuing essentially common cultural and humanistic goals in a world of limited natural resources.

The Institution expects to apply increasing emphasis to its research programs, especially in collections related areas and where it has developed considerable expertise such as basic taxonomy and systematics, monitoring the effects of long-term environmental change, examining the basic components of matter, studying the universe, and expanding knowledge of animal behavior. Research endeavors expected to be more thoroughly cultivated and developed include archeometry, species conservation and propagation, and man-related disciplines. The rapid development of new techniques and fabrication of new instruments in the field of astrophysics now opens the possibility of constructing telescopes to see in regions previously limited by technology. The Astrophysical Observatory is particularly interested in submillimeter wave lengths, perhaps the "last frontier" for ground based astronomical observations. As a part of its longer-term research agenda, the Smithsonian may indeed be more of a focus for the activities of some of the American overseas research centers whose research integests align with those of the Institution.

Improvements to all aspects of managing collections is another longterm concern, including continuation and updating of the comprehensive inventories, security mechanisms, and loan processing arrangements, the development of automated information systems, and the conservation and preservation of artifacts and objects for research and display purposes. The Smithsonian will always have major responsibilities directed to the preservation and care of collections. Objects made by man, or collected by him from nature, are the tangible products of his historically persistent struggles to comprehend and live with his environment, extend his mastery over it, improve his condition, and express his spiritual aspirations. The collection, interpretation, preservation, and transmission of knowledge related to important objects is essential if this and future generations of people are to measure and understand the character of international cultural and natural change.

The programs which will be housed at the Museum Support Center building will be fully operational by the mid-1990s. The facility and its programs were fundamentally conceived more than a decade ago to provide space, laboratories, training areas, and equipment, all designed for the efficient storage, study, care and preservation of collections. In a visible fashion in future years, the Center and its operations represent the Institution's commitment to apply the most advanced research, conservation and preservation techniques known to minimize the unavoidable toll of time on the products and discoveries of Man, and to allow them to be passed on as a resource for future research and exhibition.

Educational programs and services to the public, including classes, publications and other media activities, are expected to grow in number and variety. They will be adapted in a style and format which will be in keeping with the changes that will be taking place in television and communications technologies. Also, 1992 will mark the quincentennial anniversary of the discovery of America by Christopher Columbus. The Institution will celebrate this event with exhibitions, lectures, symposia and other events.

## Operational Funding Operations

With regard to federal funding growth associated with operations, the Smithsonian expects to keep abreast of inflation; obtain the necessary resources to implement its programs being planned for the Quadrangle and Support Center; experience some continued moderate increases for collections related or other research, exhibit, and other program opportunities as they arise; and to maintain an appropriate balance of funding for its science, history, art, and other major operating interests.

Essential levels of S\&E operating resources through ${ }_{1}$ FY 1990 are projected in earlier chapters as approximating $\$ 290,000,000$. For illustrative purposes, even using a four percent annual growth figure to cover inflationary cost increases and program requirements (beyond those which can reasonably be supported through reallocation of base funds), the Institution would be operating at an appropriation level approaching \$430,000,000 in
$\overline{1}_{\text {Projected }}$ level of $S \& E$ resources required excluding future year legislated pay increases.

FY 2000. A federal operating level of this magnitude seems incomprehensible when viewed from today's perspective. This figure, however, is conservative, and a genuine indication of what could happen.

As in federal operations, the basic approach regarding long-range trust prospects is a conservative one. Sustained moderate growth in the Institution's endowment is a high priority now and will continue to be throughout the foreseable future. During FY 1975-1983, pursuant to the Board of Regents' policy of increasing the Institution's endowments, the market value of endowments in restricted and unrestricted areas grew from around $\$ 42,000,000$ to over $\$ 120,000,000$ as a result both of gifts and transfers to these funds, as well as sound investment. Assuming a comparable economic climate and sound management investment choices, that performance should continue. It is planned that a prudent portion of the Institution's net revenues will continue to be added to the unrestricted endowment and that gifts for restricted purposes will also continue.

Overall, by the turn of the century, if trust revenues are sufficient to offset the effects of inflation, the Institution hopes to be able to increase its net earnings from auxiliary and business-related activities to over $\$ 30,000,000$. The pattern of applying unrestricted net funds throughout future years to institutional operations is expected to be much the same as now: to enhance endowments; to fund Board of Regents' approved Programs in research, fellowship, exhibition, and education areas; to enhance program activities with the museums and bureaus; and to support central institutional administrative requirements.

## Grants and Contracts

Grants and Contracts from the federal government have been a significant source of funds for Smithsonian contributions to scientific and cultural advances almost since the Institution's establishment. Government interest in support of the national basic research enterprise may never again reach the intensity recorded in the 1950 s and 1960 s, simply because of limited resources for higher educational institutions, research laboratories, and establishments such as the Smithsonian. Nevertheless, the federal government cannot neglect basic research, and must continue to support and stimulate through the grant and contract mechanisms quality investigations into selected areas. The Institution has distinguished itself in various research disciplines, and intends to continue to do so over the long run, partially through sustained grant and contract work received from the federal government, as well as its other sources of funding.

## Foreign Currency Program

The Smithsonian has conducted programs with excess foreign currency funds since 1965. Foreign currency projects, consisting of grants to American institutions of higher learning, including the Smithsonian itself, museum professional exchanges, and occasional restoration projects of international importance such as the Temple of Philae in Egypt, Moenjadaro in Pakistan, have occurred in most of the excess currency countries. The results have been amply reflected in publications, conference presentations, and exhibits, and in sustained scholarly relationships. The countries where
excess currency projects could be funded were eleven, and are now reduced to four. Opportunities may be limited over the longer run if presently available currencies diminish even further. While the international context changes periodically, the Smithsonian expects its program to remain active as long as currencies are available. By forward funding certain highpriority efforts, it is expected that activities will continue forward beyond the period when countries are no longer on the excess list.

## Buildings and Facilities

At the end of FY 1984, the Smithsonian occupied approximately 4, 500, 000 square feet of building space, owned or leased, for all purposes in facilities located in Washington and elsewhere. By FY 1990, with the occupation of the planned Quadrangle facility in FY 1986, and the essential completion of planned facility work for the Zoological Park in Rock Creek, the Front Royal Conservation Center, and other institutional research and administrative facilities, space occupied by the Institution will approximate $5,500,000$ square feet. By FY 2000, if the Institution continues to be successful in planning and accommodating its major space objectives, space available might approach $7,000,000$ square feet. Implicit to the projections beyond FY 1990 are the following general institutional objectivés:

- Consolidation of program, administrative, and support operations into Smithsonian-owned facilities on properties controlled by the Institution or the federal government, and the minimum reliance on leased or rented locations.
- Continued phased development of the Suitland and Front Royal properties for controlled warehousing, preservation, conservation, and study of the collections and propagation of endangered species.
- Acquisition of a building or site convenient to the Mall to accommodate light, industrial-type operations for technical and administrative support of museum operations.

Smithsonian rentals at today's rates from all sources of funds now cost about $\$ 3,000,000$ annually. Primarily, these are for research, collections management, and support purposes. About two-thirds of these costs are represented by activities in the Washington, D.C. area, and the balance by field activities, principally the Astrophysical Observatory. Substantial consolidation of space holdings took place in 1972-75 in the Washington area to obtain more appropriate and efficient space, to simplify logistical support, and to avoid sizeable rent increases. Four leased buildings were vacated over this period with many operations being relocated to a singled leased facility at North Capitol Street.

This consolidation process should continue and other rental locations, including North Capitol Street, are factored into our long-range consolidation plans. Included are the Anacostia Neighborhood Museum; the Radiation Biology Laboratory; the Astral Building in L'Enfant Plaza which contains the
offices of several support and program functions such as internal audits, accounting, and folklife programs; and the Cambridge headquarters of the Astrophysical Observatory. The presence of the Support Center and Quadrangle facilities affords opportunities to examine space in other buildings, primarily the Natural History and Arts and Industries Building, as resources to meet a portion of needs now met in expensive rental space.

Institution facility requirements will be restudied at appropriate intervals and management is not presently committed to any FY 1990 or beyond planned building configuration or schedule for appropriations and construction. The Suitland location, however, seems ideal for fulfilling many of the Institution's consolidation and collection management objectives. The building recently opened at Suitland permits the Institution to meet many collections storage needs primarily in the natural history area, and establish training and other conservation program space. A subsequent phase of development at Suitland would alleviate emerging collection storage pressures in the other bureaus. After 1990, as currently envisioned next development steps for the Suitland properties include an additional pod for the current building, a storage and laboratory building for the history and art functions, and a central facility for the libraries.

Zoological Park. Development of the Zoological Park's Rock Creek parking facilities are currently envisioned for beyond FY 1990. The parking facilities project will be reevaluated to determine when it might best be accomplished. The development plan for the Conservation and Research Center at Front Royal is being reviewed with a number of projects anticipated beyond FY 1990. Over the years, R\&R funds will be sought for the Conservation Center for such items as installation of utilities and access roads, security buildings, staff housing, maintenance and other facilities.

Anacostia Neighborhood Museum. Presently, the Museum's administrative staff and exhibition space are located in a leased building that is unsuitable for long-term occupancy. A second, small building is to be constructed over FY 1985 on federal land in Anacostia adjacent to the present Exhibits Lab building at Fort Stanton Park. This will allow the Institution to vacate the leased property. Planning for a new and modern museum building will be started during this planning period. At this time, this project is tentatively scheduled for beyond FY 1990.

Astrophysical Observatory. The Smithsonian Astrophysical Observatory depends entirely upon rental space for its activities in Cambridge, Massachusetts. An Observatory-owned facility at Cambridge could offset long-term escalating rental costs and provide additional benefits of consolidation of locations and increased space. A research and support building programmed for construction sometime after FY 1990 would accommodate the Astrophysical Observatory's requirements, and must be considered.

Cooper-Hewitt Museum. The Institution currently is exploring ways to make maximum use of the land and space available for Cooper-Hewitt operations. Under consideration is a tentative plan which would allow a new wing to be constructed at some future date on the parking area adjacent to the Carnegie Mansion and behind the Miller townhouse. Once erected, this phase would be followed by renovation of the townouse and reorganization of the

Carnegie Mansion. The new building would add substantially to the Museum's capabilities for special changing exhibitions, and allow the Carnegie Mansion to house the Museum's permanent collections and exhibitions. It is too early to make judgments on the ultimate configuration, dimensional possibilities, and potential construction timetable, but a fund raising effort is beginning.

Mall Site. The property bounded by Third Street, Maryland Avenue, Fourth Street, and Jefferson Drive has been reserved by Congress for the future public use of the Smithsonian (P.L. 94-74, approved August 8, 1975). There are currently no plans for the development of this site, but the Institution will continue to consider potential use of the land for establishing a last major Smithsonian Mall museum. In the meantime, it is expected that the site will continue to be used for temporary exhibitions and other purposes by federal and other organizations.

Mall Visitor Access. The Institution will continue during the present five-year cycle and beyond to strive to improve visitor access to all Mall museums and monuments. This includes enhancing present public transportation to and around the downtown area and, in the foreseeable future, providing adequate parking for visitors who will drive to the Mall area.

Air and Space Museum. There exists a long-term need for a storage and preservation facility for large air and space craft. The museum visitor of the next century will be as interested in the Space Shuttle as the scholar or visitor of 1984 is in the Kitty Hawk flyer. Included during the fiveyear construction program for FY 1986-1990 is a hanger-like building proposed to be constructed adjacent to Dulles Airport as an initial phase of this project. In later years, beyond FY 1990, it is currently envisioned that perhaps additional structures of this type could serve this purpose.

Additionally, the Institution will actively support efforts by the Woodrow Wilson International Center for Scholars to acquire appropriate new quarters. The Smithsonian is also considering a collaborative project with the U.S. Postal Service which wants to support a National Postal Museum, possibly in the Washington City Post Office Building. The scope of this project is not known at this time.

Maintenance and Improvements of Buildings. The Institution currently occupies many older buildings of cultural and historical importance to the nation, such as the headquarters Castle Building, the Arts and Industries Building, the Old Patent Office Building, the original Corcoran Art Building, and the Barney Studio House. As time passes, these buildings will require added resources to assure their preservation and continued usefulness to the public and the Institution. In addition. many buildings of more recent construction will begin to require more attention.

At the present time, the Institution is devoting about \$9,000,000 to $\$ 14,000,000$ of federal funds annually to the renovation and restoration of its buildings, exclusive of utilities, custodial care, and basic maintenance provided through the operational budget. The annual figure fluctuates somewhat, but the Institution foresees a need to increase its renovation and restoration efforts to about $\$ 25,000,000$ to $\$ 30,000,000$ per year during the next five-year period. Management will make periodic assessments of the
adequacy of this level of funding and, within the framework of future years' available renovation and restoration funds, the Institution will continue to make improvements at various locations. Included among these are such items as expanded tropical research facilities and improvements to the Barro Colorado Nature Monument under the supervision of the Tropical Research Institute in Panama and the Astrophysical Observatory's continued improvement of the Whipple Observatory and other sites. Beyond FY 1990, renovation, restoration, and modifications to existing space in Mall and other buildings for exhibitions, research programs, access by the handicapped, safety and health, and general preservation of historic facilities will continue to be among the highest priorities of the Smithsonian.

If these improvements and additions to the Institution's physical plant occur, there will, of course, be related operating costs for necessary personnel, utilities, equipment and other items, to be funded largely through the federal appropriations process. While some operating and equipping needs have been estimated through FY 1990 for the Quadrangle, the General Post Office, and facilities associated with the Zoological Park, it is too early to speculate about similar resources related to longer-range building possibilities. This will be done, however, as plans become firmer and as the time horizon shortens to the three-to-five-year period usually associated with legislative, appropriation, and construction cycles for physical plant additions.

As refinements are made to the Institution's long-range construction and operational aspirations, Congress, the Executive Branch, and other constituents will be kept fully informed through every means of communication, including the Prospectus.

## QUADRANGLE: ESTIMATED RESOURCES ASSOCIATED WITH PROGRAM, AND SUPPORT OPERATIONS

(\$000)

| Activities | FY 1986 | FY 1987 | FY 1988 | FY 1989 | FY 1990 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Program Operations ${ }^{2}$ |  |  |  |  |  |
| Federal | \$ 6,186 | \$ 6,744 | \$ 6,738 | \$ 7,222 | \$ 7,583 |
| Trust | 20,448 | 22,147 | 22,799 | 23,786 | 24,874 |
| Support Operations ${ }^{3}$ |  |  |  |  |  |
| Federal | 1,978 | 3,806 | 3,374 | 3,392 | 3,392 |
| Trust | - | - | - | - | - |
| Utilities | 500 | 700 | 735 | 772 | 881 |
| Totals |  |  |  |  |  |
| Federal |  |  |  | \$11,386 | \$11,856 |
| Trust ${ }^{4}$ | \$20,448 | \$22,147 | \$22,799 | \$23,786 | \$24,784 |
|  | \$29, 112 | \$33,397 | \$33,646 | \$35,172 | \$36,640 |

${ }^{1}$ This table is meant to provide an overview of operational costs of those program units that will be occupying the Quadrangle, plus building and ground maintenance, utilities, some support for central offices, and trust operations. Not included are Freer Gallery of Art operations since base funds are not directed to Quadrangle activities.
${ }^{2}$ Program operations include the Museum of African Art, the Sackler Gallery (part of the Center for Asian Art, along with Freer Gallery) National and Resident Associate Programs, the International and Education Centers, and the Traveling Exhibition Service.
${ }^{3}$ Support operations, for purposes of this table, include costs for protection and security, building and grounds maintenance, libraries requirements, exhibits central, accounting, personnel administration, and plant operations.
$4_{\text {Additional }}$ resources for operations and support will be raised from trust funds and donors to augment programs and selected activities in dollar amounts that cannot be estimated at this time.

## APPENDIX I

APPLICATION OF SMITHSONIAN OPERATING RESOURCES FY 1984 AND PROJECTED THROUGH<br>FY 1990 BY ORGANIZATION

NOTE: The brief descriptions by bureaus cover facilities construction, restoration and renovation projects as well as operational plans, while the dollar projections pertain only to federal or trust operational expenditures. For further information on projected facilities project costs see the Facilities Planning, Construction, Restoration and Renovation Chapter.
Offiee of Edueational Rescarch (SOER). During the plaming period efforts will be directed to increasing staff size to eapitalize on the growing national interest in informal education. Programs will be direeted to achieving a better understanding on how and why people learn in out-of-school settings, utilizing museums, zoological parks, ete. as models. Emphasis will also be given to preparing edueation materials for family groups, teaehers and others on science-related topies. It is antieipated that a non-technieal newsletter will be developed to assure that
information generated by SOER researeh will be disseminated to interested lay public and relevant professionals.
 Continuing efforts will be made to refine the objects for use by scholars and the public. The for
Great
 .
SMITHSONIAN INSTITUTION FY 1984 AND PFGIJECTEN THROUGH 1990


The major instrumental theme for research during the planning period will be based on Submillimeter wavelengths represent Detectors at yet in researeh themc and development and test for the telescopes at the Fred L. Whipple ingredient for SAO seientists to keep in the of replacement and improvement of laboratory ials and engaging student interest, taking SAO also will address and eorreet the

During the planning period STRI anticipates strengthening its position as the
principal center for studies in tropical biology by seleetive staff additions in the areas of Biochemical Evolution, support staff ineluding

иотұел.даsuos pue truotұeonpa uoţ!ppe uI - zuәunuow annen puetsi opexotod nizations of the host eountry and other institutions to An important eorollary of this work is the training of support existing programs and enhanee new initiatives,
facilities modernization will be undertaken during the planning period involving principal STRI sites, Naos, Galeta,
Tivoli and Barro Colorado Island.
which is hampering scientifie produetivity.

Astrophysieal Observatory (SAO).
 keeping with this theme, a submillimeter the last frontier field; wavelengths from X-ray through submillimeter are eritical eomponcnts of
of improved detcetors will bc pursued. Improvements are also scheduled observatory and in the faeilities, i.e., a new base camp. An essential modern equipment and a program by developing educational materi Over the and mathematies to pre-college students advantage of the apparent universal a serious shortage of support personnel
nature conservation and development. nature conservation and development third-world students in tropical biology. Tivoli and Barro Colorado Tsland

During the planning period the Ccnter will strengthen its research program and
rcfoeus its priorities to take advantage of the features of the 2600 acre estuarine field researeh site at Edgewater, Maryland. Rcseareh emphasizes the measurement of physical, chemieal, and biological interaetions in the environment and the determination of how these interactions affect the growth, maintenance, and suecession of plants and animals. near completion, and a new ow housed in leased spaee at ! [qnd suṭseaxכu! uo snoof pue

| 3 |
| :--- |
| 0 | $n$ estuarine systems and


| SCIENCE | FY 1984 |  | FY 1985 |  | FY 1986 |  | FY 1987 |  | FY 198H |  | FY 1989 |  | FY 1990 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} F i \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} F T \\ E M P L \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | F T Eintrl | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { } \\ \text { ENPL } \end{gathered}$ | $(000)$ | $\begin{gathered} F T \\ E M P L \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} F T \\ E M P L \end{gathered}$ | $\begin{gathered} 3 \\ (000) \end{gathered}$ | $\begin{gathered} \text { FI } \\ \text { ENPL } \end{gathered}$ | $\begin{gathered} \left.\begin{array}{c} 3 \\ (000) \end{array}\right) \end{gathered}$ |
| ASTROPHYSICAL OBSERVATORY |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FEDERAL SALARY \& EXPENSES | 97 | 7652 | 97 | 8708 | 100 | 9208 | 124 | 11719 | 131 | 13608 | 155 | 15748 | 161 | 15976 |
| -PROGRAM \& ADMINISTRATIVE | 13 | 2053 | $\begin{array}{r} 43 \\ 0 \end{array}$ | 2271 | $\begin{array}{r} 43 \\ 0 \end{array}$ | 24910 |  | 25510 | $\begin{array}{r} 43 \\ 0 \end{array}$ | 2631 | $\begin{array}{r} 43 \\ 0 \end{array}$ | 2711 | 430 | 27960 |
| -AUXILIARY ACTIVITY | 0 |  |  | 0 |  |  |  |  |  | 0 |  | 0 |  |  |
| - BUREAU ACTIVITY-ALL OTHER | 2 | 130 | 2 | 135 | 2 | 140 | 2 | 144 | 2 | 148 | 2 | 152 | 2 | 156 |
|  | 0 | 315 | 0 | 333 | 0 | 369 | 0 | 406 | 0 | 447 | 0 | 492 | 0 | 541 |
| RESTRICTED | 1 | 220 | 1 | 198 | 1 | 156 | 1 | 157 | 1 | 157 | 1 | 160 | 1 | 172 |
| FEDERAL GRANTS \& CONTRACTS | 101 | 12059 | 99 | 12424 | 120 | 15681 | 133 | 23694 | 132 | 25348 | 105 | 28655 | 77 | 14498 |
| -SUBTOTAL | 244 | 22429 | 242 | 24069 | 260 | 28045 | 30.3 | 38671 | 309 | 12339 | 306 | 47918 | 284 | 34139 |
| IROPICAL BESEARCH INSTITUTE | 87 | 3367 | 88 | 3574 | 88 | 3974 | 95 | 4895 | $107$ | 4853 | 112 | 4912 | 118 | 6672 |
| FEDERAL SALARY \& EXPENSES |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -PROGRAM \& ADMINISTRATIVE | 2 | 89 | 2 | 106 | 2 | 111 | 2 | 116 | 2 | 121 | 2 | $: 26$ | 2 | 131 |
| -AUXILIARY ACTIVITY | 0 | 0. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| - BUREAU ACTIVITY | 0 | 204 | 0 | 144 | 0 | 148 | 0 | 172 | 0 | 200 | 0 | 215 | 0 | 246 |
| -ALL OTHER | 0 | 62 | 0 | 52 | 0 | 55 | 0 | 40 | 0 | 40 | 0 | 45 | 0 | 45 |
| RESTRICTED | 0 | 324 | 0 | 397 | 0 | 225 | 6 | 217 | 6 | 180 | 4 | 100 | 4 | 120 |
| FEDERAL GRANTS \& CONTRACTS | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| -SUBTOTAL | 39 | 4051 | 90 | 4273 | 90 | 4513 | 103 | 5440 | 115 | 5394 | 118 | 5398 | 124 | 7214 |
| SMITHSONI AN ENVIRONMENTAL RESEARCH CTR | 68 | 3170 | 68 | 3439 | 68 | 3739 | 68 | 3709 | 81 | 4284 | 84 | 4634 | 87 | 4259 |
| FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -PROGRAM \& ADMINISTRATIVE | 1 | 69 | 1 | 76 | 1 | 79 | 1 | 81 | 1 | 81 | 2 | 101 | 2 | 104 |
| -AUXILIARY ACTIVITY UNRESTRICTED SPECIAL PURPOSE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| -BUREAU ACTIVITY | 0 | 8 | 0 | 20 | 0 | 10 | 0 | 19 | 0 | 20 | 0 | 22 | 0 | 24 |
| -ALL OTHER | 0 | 82 | 0 | 91 | 0 | 90 | 0 | 107 | 0 | 109 | 0 | 112 | 0 | 115 |
| RESTRICTED | 0 | 23 | 0 | 19 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FEDERAL GRANTS \& CONTRACTS | 7 | 413 | 7 | 390 | C | 303 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| -SUBTOTAL | '16 | 3765 | 76 | 4035 | 75 | 4236 | 69 | 3916 | 82 | 4497 | 86 | 4369 | 89 | 4502 |

During the planning period, the Museum anticipates a continuing process of strengthening Air and Space Museum (NASM). research programs in the history and technology of aviation and space flight, as well as remote sensing and
atmospheric and planetary geologic applications. An important adjunct to the research activities which will also
benefit collection management, exhibition and public programs, is the acceleration of the videodisc and digital
recording efforts. This will enhance the utility of the collections, as well as allow for rapid accessioning of
newly-collected materials. Publications and education programs will continue to be stressed. It is anticipated th
during this period the first of several new buildings will open at Dulles Airport to provide opportunities for
exhibition of larger objects, such as the Concorde or space shuttle that cannot be practicably exhibited on the Mall
Plans also call for the eventual relocation of the preservation and restoration activities from the Paul E. Garber
facility. Two new Imax Films have been commissioned for the planing period. The first, "The Dream is Alive," will
the first motion picture filmed in space, and the second, "On The Wing," is a lyrical depiction of the analogies of
natural and mechanical flight. A new 1, 000 seat restaurant is being built on the museum's east terrace and will op
during the planning period. Plans also call for the present restaurant on the third floor to be converted to a
quality dining facility.
Air and Space Museum (NASM). During the planning period, the Museum anticipates a continuing process of strengthening
research programs in the history and technology of aviation and space flight, as well as remote sensing and
atmospheric and planetary geologic applications. An important adjunct to the research activities which will also
benefit collection management, exhibition and public programs, is the acceleration of the videodisc and digital
recording efforts. This will enhance the utility of the collections, as well as allow for rapid accessioning of
newly-collected materials. Publications and education programs will continue to be stressed. It is anticipated that
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natural and mechanical flight. A new 1 , ooo seat restaurant is being built on the museum's east terrace and will open
during the planning period. Plans also call for the present restaurant on the third floor to be converted to a
quality dining facility.
Nolimilisni N甘INOSHIIWS

HISTORY AND ART
Joseph Henry Papers (JHP). Over the next five years emphasis will be placed on the phased development of the Joseph Henry Institute for the History of the Sciences in American Life. The scope of the Institute would be the sciences broadly conceived. Both the pure and applied sciences would be studied, including technology and medicine, for all periods of American history. Though the natural sciences would be emphasized the Institute would include the history of the social sciences as well, and would concern itself not only with the internal history of the sciences but especially with the role that the sciences have played in American society--government, industry, education and popular culture. Museum of American History (NMAH). During this period the Museum will continue with its ten year major reinstallation
 management efforts will be accelerated, processing gaps in est interest of the citizens and the on, including development of the new
gement staff is anticipated to clean
The Museum will also work toward sbcstos. In addition the Museum will other improvements to collection stora maintain affirmative action in all its programs for minority interests

|  | FY 1984 |  | FY 1985 |  | Fy $198 \overline{0}$ |  | Fy 1987 |  | FY 1988 |  | FY 1989 |  | FY 1990 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| HISTORY 8 ART | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} 8 \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \Phi \\ (000) \end{gathered}$ | $\begin{gathered} F i \\ \text { EMP } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} F T \\ E M P L \end{gathered}$ | $\begin{gathered} \mathrm{s} \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{aligned} & \text { Fi } \\ & \text { EMPL } \end{aligned}$ | $\begin{array}{\|c\|} \hline \$ \\ (000) \end{array}$ |
| ASSISTANT SECRETARY FOR HISTORY \& ART |  | 400 | 4 | 208 | 4 | 208 | 4 | 222 | 4 | 222 | 4 | 222 | 4 | 222 |
| federal salary s expenses | 41 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UNRESTRICTED GENERAL |  | $\begin{array}{r} 105 \\ 0 \end{array}$ | 1 | 1000 | $\begin{aligned} & 1 \\ & 0 \end{aligned}$ | $\begin{array}{r} 152 \\ 0 \end{array}$ | $\begin{aligned} & 1 \\ & 0 \end{aligned}$ |  | $\begin{aligned} & 1 \\ & 0 \end{aligned}$ |  |  |  |  |  |
| -PROGRAM \& ADMINISTRATIVE -AUXILIARY ACTIVITY |  |  |  |  |  |  |  | 112 |  | 113 | $\begin{aligned} & 1 \\ & 0 \end{aligned}$ | 113 | 1 | 115 |
| UNRESTRICTED SPECIAL PURPOSE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -bureau activity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| -all other | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Restricted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| federal grants \& CONtracts | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| -subtotal | 5 | 512 | 5 | 308 | 5 | 360 | 5 | 334 | 5 | 335 | 5 | 335 | 5 | 337 |
| Joseph henry papers. |  | 212 | 5 | 221 | 5 | 221 | 9 | 361 | 10 | 403 | 10 | 403 | 10 | 403 |
| FEDERAL SALARY 8 EXPENSES |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UNRESTRICTED GENERAL |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 |
| -auxiliary activity |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNRESTRICTED SPECIAL PURPOSE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -gureau activity |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| - ALL OTHER |  | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| Restricted |  | 1 | 0 | 1 | 0 | 28 | 0 | 28 | - | 28 | 0 |  | 0 | 28 |
| federal grants \& Contracts |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| -subtotal | 5 | 214 | 5 | 223 | 5 | 250 | 9 | 390 | 10 | 432 | 10 | 432 | 10 | 432 |
| MUSEUM OF AMERICAN History | 295 | 9856 | 302 | 11055 | 312 | 11835 | 327 | 12711 | 327 | 13161 | 328 | 12806 | 328 | 12806 |
| FEDERAL SALARY \& EXPENSES |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UNRESTRICTED GENERAL | 2 | 345 | 2 | 175 | 2 | 138 | 2 | 142 | 2 |  | 2 |  |  |  |
| -auxiliary activity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UNRESTRICTED SPECIAL PURPOSE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -bureau activity | 0 | 6 | 0 |  | 0 | 10 | 0 | 8 | 0 | 8 | 0 | 9 | 0 | 9 |
| -all other | 1 | 469 | 0 | 206 | 1 | 222 | 0 | 235 | 0 | 242 | 0 | 249 | 0 | 257 |
| restricted | 4 | 526 | 2 | 1069 | - | 577 | 0 | 573 | - | 590 | 0 | 608 | 0 | 627 |
| federal grants \& Contracts | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| -subtotal | 302 | 11202 | 306 | 12513 | 315 | 12782 | 329 | 13669 | 329 | 14145 | 330 | 13818 | 330 | 13847 |

TABLE 7 （2）
」 DNII甘甘ヨdO fo NOII甘OI7dd甘
FY 1984 AND FROJECTED THROUGH 1990


| Gallery, anticipates significant staff and resource growth in selected areas over the next five plans a strengthened research program in the areas of Indian and South Asian art, and forecasts support in specific areas of specialization to automate collections records. Staff and resources collections management are projected for the Sackler Gallery to provide remedial conservation wor given to the gallery and to prepare for the transfer to the objects into the museum on the Mall include expansion of the education, public orientation and exhibition programs of both the Free Sackler Gallery. The Freer will enhance its publications program in order to accommodate an exp program resulting from increased space acquired after renovation of vacated office space. The pr facilities will be renovated to accommodate examination and treatment of objects for the Sackle expanded Oriental painting restoration program. The Sackler Gallery anticipates publication of each year as well as gallery guides, leaflets and other materials for the public. Preparation exhibition and installation of the galleries are also high priority and resources are incorpora Emphasis will be placed on the development of an aggressive collections acquisition program for of Art and the Sackler Gallery to assure acquisition of the finest quality objects and to search examples that strengthen existing holdings. |
| :---: |
| ives of American $\operatorname{Art}(\Lambda A \Lambda)$. The Archives staff will direct attention to the management and care immediate concern is the care of the photograph collection, for which curatorial support and con required. Conservation of 2,500 valuable oral histories also is a high priority and a system $f$ storage of the original tapes will be developed. The Archives continues to inventory and recon collection to accession records; indexing and cataloguing will be related to the automated coll system. Plans will be refined for the move to the General Post office Building (associated prog included here). The AAA plans to exhibit in some of the vacated spaces of the Patent office bui that can be circulated by SITES. |


The completion and move to the Quadrangle is the most important event scheduled for this
 visual traditions, and will concentrate on the critically important to rounding out the collection. culating loan exhibitions accompanied by scholarly rowth accompanied by increased revenues are required to nagement, education, research and publications. Some
and
 mit the Museum to vacate its leased building. joint research, systematic information Further, the Museum will continue to plan and interpret fro-American studies and ethnohistory for use in trav. to
NOIINIIISNI NVINOSHIIWS APPLICAIION 1984 AND PROJECTED THRQUGH 1990

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \& \multicolumn{2}{|l|}{FY 1984} \& \multicolumn{2}{|l|}{FY 1985} \& \multicolumn{2}{|l|}{FY 1986} \& \multicolumn{2}{|l|}{FY 1987} \& \multicolumn{2}{|l|}{FY 1988} \& \multicolumn{2}{|l|}{FY 1989} \& \multicolumn{2}{|l|}{FY 1990} \\
\hline HISTORY \& ART \& \[
\underset{\text { EMTPL }}{\text { FT }}
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\end{gathered}
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\text { FT } \\
\text { EMPL }
\end{gathered}
\] \& \[
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\underset{\text { ET }}{\text { FMPL }}
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\begin{gathered}
s \\
(000)
\end{gathered}
\] \\
\hline \multicolumn{15}{|l|}{MUSEUM DF AFRICAN ART} \\
\hline \begin{tabular}{l}
FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL \\
-PROGRAM \& ADMINISTRATIVE \\
- AUXILIARY ACTIVITY \\
UNRESTRICTED SPECIAL PURPDSE \\
-BUREAU ACTIVITY \\
-ALL OTHER \\
RESTRICTED \\
FEDERAL GRANTS 8 CONTRACTS
\end{tabular} \& 25
0
0
0
0
0
0 \&  \& \begin{tabular}{l}
32 \\
3
0
\end{tabular} \& \[
\begin{array}{r}
1241 \\
88 \\
0 \\
4 \\
12 \\
65 \\
0
\end{array}
\] \& \[
\begin{array}{r}
43 \\
1 \\
0 \\
0 \\
0 \\
0 \\
0
\end{array}
\] \& \[
\begin{array}{r}
2825 \\
39 \\
0 \\
1 \\
13 \\
52 \\
0
\end{array}
\] \& \[
\begin{array}{r}
52 \\
1 \\
0 \\
0 \\
0 \\
0 \\
0
\end{array}
\] \& 2883
64
0
7
0
50
0 \& \[
\begin{array}{r}
52 \\
1 \\
0 \\
0 \\
0 \\
0 \\
0
\end{array}
\] \& \begin{tabular}{l}
2758 \\
66
0
\[
\begin{array}{r}
7 \\
0 \\
50 \\
0
\end{array}
\]
\end{tabular} \& \[
\begin{gathered}
52 \\
1 \\
0 \\
0 \\
0 \\
0 \\
0
\end{gathered}
\] \& \[
\begin{array}{r}
2808 \\
68 \\
0 \\
7 \\
0 \\
50 \\
0
\end{array}
\] \& \[
\begin{array}{r}
52 \\
1 \\
0 \\
0 \\
0 \\
0 \\
0
\end{array}
\] \& \begin{tabular}{l}
2808 \\
71
0 \\
7
0
50
0
\end{tabular} \\
\hline -SUBTOTAL \& 25 \& 1134 \& 35 \& 1410 \& 44 \& 2930 \& 53 \& 3004 \& 53 \& 2881 \& 53 \& 2933 \& 53 \& 2936 \\
\hline \multicolumn{15}{|l|}{ANACOSTIA NEIGHBORHDOD MUSEUM} \\
\hline \begin{tabular}{l}
FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL \\
- PROGRAM \& ADMINISTRATIVE \\
- AUXILIARY ACTIVITY \\
UNRESTRICTED SPECIAL PURPOSE \\
- BUREAU ACTIVITY \\
-ALL OTHER \\
RESTRICTED \\
FEDERAL GRANTS \& CONTRACTS
\end{tabular} \& 19
1
0
0
0
0
0 \& 828
32
0
0
0
2
0 \& \[
\begin{gathered}
19 \\
1 \\
0 \\
0 \\
0 \\
0 \\
0
\end{gathered}
\] \& \[
\begin{array}{r}
863 \\
38 \\
0 \\
0 \\
0 \\
1 \\
0
\end{array}
\] \& \[
\begin{aligned}
\& 19 \\
\& 1 \\
\& 0 \\
\& 0 \\
\& 0 \\
\& 0 \\
\& 0
\end{aligned}
\] \& 863
39
0
0
0
1
0 \& \[
\begin{array}{r}
23 \\
1 \\
0 \\
0 \\
0 \\
0 \\
0
\end{array}
\] \& \[
\begin{array}{r}
971 \\
40 \\
0 \\
0 \\
0 \\
0 \\
0
\end{array}
\] \& \[
\begin{array}{r}
23 \\
1 \\
0 \\
0 \\
0 \\
0 \\
0
\end{array}
\] \& \[
\begin{array}{r}
991 \\
40 \\
0 \\
0 \\
0 \\
0 \\
0
\end{array}
\] \& \[
\begin{array}{r}
23 \\
1 \\
0 \\
0 \\
0 \\
0 \\
0
\end{array}
\] \& \begin{tabular}{l}
1016 \\
40 \\
0 \\
0
0
0
0
\end{tabular} \& \[
\begin{array}{r}
23 \\
1 \\
0 \\
0 \\
0 \\
0 \\
0
\end{array}
\] \& \begin{tabular}{l}
1051 \\
41 \\
0 \\
0 \\
0 \\
0
\end{tabular} \\
\hline -SUBTOTAL \& 20 \& 362 \& 20 \& 902 \& 20 \& 903 \& 24 \& 1011 \& 24 \& 1031 \& 24 \& 1056 \& 24 \& 1092 \\
\hline \multicolumn{15}{|l|}{HISTORY \& ART-SUMMARY} \\
\hline \begin{tabular}{l}
FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL \\
-PROGRAM \& ADMINISTRATIVE \\
-AUXILIARY ACTIVITY \\
UNRESTRICTED SPECIAL PURPOSE \\
-BUREAU ACTIVITY \\
-ALL DTHER \\
RESTRICTED \\
FEDERAL GRANTS \& CONTRACTS
\end{tabular} \& \[
\begin{array}{r}
695 \\
23 \\
0 \\
5 \\
7 \\
42 \\
0
\end{array}
\] \& \[
\begin{array}{r}
25585 \\
1489 \\
0 \\
673 \\
1273 \\
4427 \\
177
\end{array}
\] \& \[
\begin{array}{r}
724 \\
26 \\
0 \\
5 \\
4 \\
40 \\
0
\end{array}
\] \& \begin{tabular}{l}
28132 \\
1273 \\
723 \\
951 \\
5893 50
\end{tabular} \& \[
\begin{array}{r}
771 \\
24 \\
0 \\
5 \\
4 \\
41 \\
0
\end{array}
\] \& \begin{tabular}{l}
32944 \\
1264 0 \\
744 \\
882 4857 50
\end{tabular} \& 843
24
0

5
4
42

0 \& $$
\begin{array}{r}
38690 \\
1272 \\
0 \\
783 \\
1058 \\
5114 \\
75
\end{array}
$$ \& 862

24
0

5
4
43

0 \& $$
\begin{array}{r}
39897 \\
1302 \\
0 \\
805 \\
1087 \\
5241 \\
75
\end{array}
$$ \& 867

24
0
5
4
44
0 \& 39905
1325
0
829
1117
5419
75 \& 874
24
0
5
4
44

0 \& $$
\begin{array}{r}
40594 \\
1355 \\
0 \\
853 \\
1148 \\
5552 \\
75
\end{array}
$$ <br>

\hline -TOTAL \& 772 \& 33624 \& 799 \& 37022 \& 845 \& 40741 \& 918 \& 46992 \& 938 \& 48407 \& 944 \& 48670 \& 951 \& 49577 <br>
\hline
\end{tabular}

PUBLIC SERVICE
Assistant Secretary for Public Service.

Visitor Information and Associates' Reception Center (VIARC). An expansion of the available information desks in FY 1985
registration scrvices during the planning period, more attention will also be directed towards adding to the language
 visitor brochures, and maps, and the design and implementation of a graphics information system on the Mall and in the Mctro station scrving Smithsonian Museums. Wi th start-up funding provided in FY 1983 and FY 1984, development will continuc of pre-visit educational materials and a program to serve visitors and to promote and support Associate

| PUBLIC SERVICE | SMIIHSONIAN INSTITUTION <br> APPLICATION OF OPERATING FUNDS FY 1984 AND PROUECTED THROUGH 1990 |  |  |  |  |  |  |  |  |  | table 8 |  |  | (1) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | FY | 1984 | FY | 1985 |  | 1986 | FY | 1987 | FY | 1988 | FY | 1989 | FY | 1990 |
|  | FT | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ E M P L \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ E M P L \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\underset{E M P L}{F T}$ | $\binom{\$}{1000}$ |
| ASSISTANT SECRETARY FOR PUBLIC SERVICE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL <br> -PROGRAM \& ADMINISTRATIVE <br> -AUXILIARY ACTIVITY <br> UNRESTRICTED SPECIAL PURPOSE <br> - BUREAU ACTIVITY <br> -ALL OTHER <br> RESTRICTED <br> FEDERAL GRANTS \& CONTRACTS | 5 0 0 0 0 0 0 | $\begin{array}{r} 242 \\ 177 \\ 0 \\ 0 \\ 100 \\ 5 \\ 0 \end{array}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{array}{r} 252 \\ 34 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | 5 1 0 0 0 0 0 | $\begin{array}{r} 252 \\ 50 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{aligned} & 5 \\ & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | 252 <br> 42 <br> 0 <br> 0 0 0 0 | $\begin{aligned} & 5 \\ & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{array}{r} 252 \\ 44 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{aligned} & 5 \\ & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{array}{r} 252 \\ 46 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | 5 1 0 0 0 0 0 | 252 48 0 0 0 0 0 |
| -SUBTOTAL | 5 | . 524 | 6 | - 286 | 6 | 302 | 6 | 294 | 6 | 296 | 6 | 298 | 6 | 300 |
| OFFICE OF TELECOMMUNICATIONS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL <br> - PROGRAM \& ADMINISTRATIVE <br> - AUXILIARY ACTIVITY <br> UNRESTRICTED SPECIAL PURPOSE <br> -BUREAU ACTIVITY <br> - ALL OTHER <br> RESTRICTED <br> FEDERAL GRANTS \& CONTRACTS | 5 8 0 0 0 0 0 | $\begin{array}{r} 202 \\ 461 \\ 0 \\ 26 \\ 160 \\ 64 \\ 0 \end{array}$ | 5 8 0 0 0 0 0 | $\begin{array}{r} 211 \\ 525 \\ 0 \\ \\ 39 \\ 110 \\ 0 \\ 0 \end{array}$ | 5 8 0 0 0 0 0 | $\begin{array}{r} 211 \\ 571 \\ 0 \\ \\ 41 \\ 109 \\ 0 \\ 0 \end{array}$ | $\begin{aligned} & 6 \\ & 9 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{array}{r} 236 \\ 611 \\ 0 \\ 47 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{aligned} & 6 \\ & 9 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{array}{r} 236 \\ 672 \\ 0 \\ 51 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{aligned} & 6 \\ & 9 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{array}{r} 236 \\ 740 \\ 0 \\ 57 \\ 0 \\ 0 \\ 0 \end{array}$ | 6 10 0 0 0 0 0 | $\begin{array}{r} 236 \\ 851 \\ 0 \\ 62 \\ 0 \\ 0 \\ 0 \end{array}$ |
| -SUBTOTAL | 13 | 913 | 13 | 885 | 13 | 932 | 15 | 894 | 15 | 959 | 15 | 1033 | 16 | 1149 |
| VISITOR'S INFORMATION \& RECEPTION CENTER |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL <br> -PROGRAM 8 ADMINISTRATIVE <br> -AUXILIARY ACTIVITY <br> UNRESTRICTED SPECIAL PURPOSE <br> -BUREAU ACTIVITY <br> -ALL OTHER <br> RESTRICTED <br> FEDERAL GRANTS \& CONTRACTS | 2 16 0 0 0 0 0 | 151 505 0 0 0 0 0 | $\begin{array}{r} 2 \\ 18 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 159 \\ 646 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 3 \\ 21 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 209 \\ 780 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 3 \\ 21 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | 209 803 0 0 0 0 0 | $\begin{array}{r} 3 \\ 21 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 209 \\ 827 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 3 \\ 21 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 209 \\ 852 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | 3 21 0 0 0 0 0 | 209 878 0 0 0 0 0 |
| -SUBTOTAL | 18 | 656 | 20 | 805 | 24 | 989 | 24 | 1012 | 24 | 1036 | 24 | 1061 | 24 | 1087 |

The demand for services of the OIA are increasing attributable to the proposed
Office of International Activities (OIA). administration of exchange agreements with countries to be featured
staff. The demand for visa and passport services for Smithsonian new International Center of the Quadrangle. The in the Quadrangle will increase and involve OIA to increase their international contacts.

International Center (IC). The mission of the International Center is twofold: to focus activities which will underscore the interdependence of natural and eultural environments and fostered interdisciplinary dialogue in order to promote The International Center will bring together scholars and scientists from the
 basis for all of the Center's programs and activities, cultural, and center on international, historical, the activities of area research eenters in bringing their researeh in conjunction with s!̣seydug American base to The records a year. In uoṭsṭaṭ ssaxd Kłṭs.jonṭun aqł music, art and art history publishing (dand market analysis. mar record package rchival records a year.

MUSEUM PROGRAMS
Assistant Secretary for Museum Programs. The Office maintains close working relationships with national and international
 the present time.
Office of Museum Programs (OMP). During the planning period, the Office of Museum Programs plans to strengthen museology The number of museum training based and cosponsored workshops. the museum profession.
policies and practices related to the management of collections, including accountability procedures and information Inventory, one aspect of collections continue to be an important concern throughout the inventories now that their initial 1978-83 the enhancement and updating of collection In addition, training programs will be developed to The Office also will continue ouncil and will develop collections management information
116


| n Ana |  |  |
| :---: | :---: | :---: |
|  |  |  |
| seum Support Center. Equipment and work areas allow for more complete treatment of several clas modern instrumentation permit a wider range of analysis and researeh to provide answers to pre |  |  |
| uestions. Research will also provide a technology base for new work in conservation techniques and for controlling |  |  |
| e muscum miero-environment. The range of objects subject to arehaeometric researeh will be exte ses produced by this research, on which questions of provenance, origin and time depend, will be |  |  |
|  |  |  |
| amatically. Existing archacometric data currently scattered in laboratories throughout the country are being |  |  |
| ought together in a new program, the Smithsonian Archaeometric Research Colleetions and Records (SARCAR). All of |  |  |
| se staff, laboratory and information resources will be available to the Conservation Training program, seheduled |  |  |
| ng in 1986, which will offer comprehensive academic and internship experiences to conservation ed to new and larger facilities in the Museum Support Center in the fall of 1983 . Acquisition of |  |  |
|  |  |  |
| uipment for the laboratories and training areas is planned to be completed in FY 1985. Personne |  |  |
|  |  |  |


| muSEum Programs | Fr 1984 |  | FY 1985 |  | FY 1986 |  | Fr 1987 |  | FY 1988 |  | FY 1989 |  | FY 1990 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} F T \\ E M P L \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{array}{\|c\|} \hline F T \\ E M P L \end{array}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{array}{\|c\|c} F T \\ E M P L \end{array}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FTA } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | EMPL | $\begin{gathered} \$ \\ (000) \end{gathered}$ | FMPL | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \mathrm{FT}_{\mathrm{ET}} \\ \hline \end{gathered}$ | $\begin{gathered} 5 \\ (000) \end{gathered}$ |
| Conservation analytical laboratory | 36 | 1666000000 | 46 | $\begin{array}{r} 2274 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{gathered} 49 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ | $\begin{array}{r} 2404 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 55 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | 2834000000 | $\begin{gathered} 56 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ | $\begin{array}{r} 3026 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{gathered} 58 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ | $\begin{array}{r} 3126 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 60 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 3175 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ |
| FEDERAL SALARY \& EXPENSES unrestricted general <br> -program \& administrative <br> -auxiliary activity UNRESTRICTED SPECIAL PURPOSE <br> -bureau activity <br> -ALL OTHER <br> restricted <br> federal grants \& Contracts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -subtotal | 36 | 1666 | 46 | 2274 | 49 | 2404 | 55 | 2834 | 56 | 3026 | 58 | 3126 | 60 | 3175 |
| Smithsonian institution libraries | 93 | $\begin{array}{r} 3692 \\ 327 \\ 0 \\ 0 \\ 3 \\ 51 \\ 0 \end{array}$ | $\begin{array}{r} 97 \\ 9 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 4406 \\ 304 \\ 0 \\ 0 \\ 0 \\ 6 \\ 0 \end{array}$ | $\left\|\begin{array}{r} 101 \\ 10 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{array}{r} 5076 \\ 319 \\ 0 \\ 0 \\ 0 \\ 6 \\ 0 \end{array}$ | $\begin{array}{r} 119 \\ 10 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 7144 \\ 357 \\ 0 \\ 0 \\ 3 \\ 4 \\ 0 \end{array}$ | $\begin{array}{r} 122 \\ 10 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\left.\begin{array}{r} 7618 \\ 397 \\ 0 \\ 0 \\ 3 \\ 4 \\ 0 \end{array} \right\rvert\,$ | $\begin{array}{r} 126 \\ 10 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 7326 \\ 417 \\ 0 \\ 0 \\ 4 \\ 4 \\ 0 \end{array}$ | 1291100000 | $\begin{array}{r} 8023 \\ 427 \\ 0 \\ 0 \\ 4 \\ 4 \\ 0 \end{array}$ |
| FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL <br> -program \& administrative <br> - AUXILIARY ACTIVITY UNRESTRICTED SPECIAL PURPOSE <br> -bureau activity <br> -ALL OTHER <br> RESTRICTED <br> FEDERAL GRANTS \& CONTRACTS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -subtotal | 102 | 4073 | 106 | 4716 | 111 | 5401 | 129 | 7508 | 132 | 8022 | 136 | 7751 | 140 | 8.458 |
| office of exhibits central | 42 | $\begin{array}{r} 1467 \\ 0 \\ 0 \\ 0 \\ -4 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 42 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 1521 \\ 0 \\ 0 \\ 0 \\ 18 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 43 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 1605 \\ 0 \\ 0 \\ 0 \\ 2 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 50 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 1727 \\ 0 \\ 0 \\ 0 \\ 1 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 52 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 1783 \\ 0 \\ 0 \\ 0 \\ 2 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 55 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{array}{r} 1870 \\ 0 \\ 0 \\ 0 \\ 3 \\ 0 \\ 0 \end{array}$ | 55000000 | 1843000200 |
| federal salary \& Expensts unrestricted general <br> -program \& administrative <br> -auxiliary activity <br> UNRESTRICTED SPECIAL PURPOSE <br> -bureau activity <br> -ALL other <br> restricteo <br> federal grants \& contracts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -subtotal | 42 | 1463 | 42 | 1539 | 43 | 1607 | 50 | 1728 | 52 | 1785 | 55 | 1873 | 55 | 1845 |

Quadrangle and other support here will be an increase of workshops and workshops the international program Also, SITES will develop a 500th anniversary of the

The office during the planning period will extend archival and records management programs to increases in its holdings. A guide will be
er ithin collections is expected to
help improve conservation work. A duced which will be maintained and updated to Ways will be considered to accommodate the growing holdings by examining space alternatives in future years.

The main goal of the Traveling Exhibition Service during the planning period will be 30 exhibitions for traveling and circulation throughout the United States and abroad. at a rate of thirty per year along with catalogue and resource materials. At least will be available for purchase by interested institutions, will also be produced space in the Arts and Industries building but will be moving to Quadrangle

Traveling Exhibition Service (SITES). to have available approximately New exhibitions will be produced one paper-panel exhibition, which each year. SITES currently occupi exhibition and workshop areas when for FY 1986-1990 are in the projections below and also appear in Table 5. In FY 1986, multi-media to underwrite a large portion of its activities. f educational technology areas of support to be discovery of America (1992).

Smithsonian Archives (SIA). all records-producing Projects to identify a published based on the work on developing des follow the survey project purvey of scientiontra provide and ongoing record.

National Muscum Act (NMA). The Act is a technical assistance program that makes grants for projects that will enhance the quality of muscum 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. Many NMA projects 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. Research projects funded by the National Museum Act, especially in conservation,
have generally not received support from other funding sources. The Program plans to continue it activities at the
full level of authorized funding but no additional responsibilities are projected.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \& \multicolumn{2}{|l|}{FY 1984} \& \multicolumn{2}{|l|}{FY 1985} \& \multicolumn{2}{|l|}{FY 1986} \& \multicolumn{2}{|l|}{FY 1987} \& \multicolumn{2}{|l|}{FY 1988} \& \multicolumn{2}{|l|}{FY 1989} \& \multicolumn{2}{|l|}{FY 1990} \\
\hline MUSEUM PROGRAMS \& \[
\begin{array}{|c|}
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\hline \multicolumn{15}{|l|}{TRAVELING EXHIBITION SERVICE} \\
\hline \begin{tabular}{l}
FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL \\
- PROGRAM \& ADMINISTRATIVE \\
- AUXILIARY ACTIVITY \\
UNRESTRICTED SPECIAL PURPOSE \\
- BUREAU ACTIVITY \\
-all other \\
RESTRICTED \\
FEDERAL GRANTS \& CONTRACTS
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7 \\
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\hline -SUBTOTAL \& 35 \& 4408 \& 35 \& 2633 \& 42 \& 2855 \& 47 \& 3360 \& 48 \& 3410 \& 49 \& 3505 \& 49 \& 3545 \\
\hline \multicolumn{15}{|l|}{SMITHSONIAN ARCHIVES} \\
\hline \begin{tabular}{l}
FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL \\
-PROGRAM \& ADMINISTRATIVE \\
- AUXILIARY ACTIVITY \\
UNRESTRICTED SPECIAL PURPOSE \\
- BUREAU ACTIVITY \\
-ALL OTHER \\
RESTRICTED \\
FEDERAL GRANTS \& CONTRACTS
\end{tabular} \& 15
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\hline -SUBTOTAL \& 20 \& 630 \& 20 \& 667 \& 20 \& 652 \& 20 \& 696 \& 21 \& 743 \& 21 \& 745 \& 21 \& 823 <br>
\hline \multicolumn{15}{|l|}{NATIONAL MUSEUM ACT} <br>

\hline | FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL |
| :--- |
| -PROGRAM \& ADMINISIRATIVE |
| - AUXILIARY ACIIVITY |
| UNRESTRICTED SPECIAL PURPOSE |
| - BUREAU ACTIVITY |
| -AL! OTHER |
| RESTRICTED |
| FEDERAL GRANTS \& CONTRACTS | \& 3

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\hline -SUBTOTAL \& 3 \& 787 \& 3 \& 789 \& 3 \& 789 \& 3 \& 1000 \& 3 \& 1000 \& 3 \& 1000 \& 3 \& 1000 <br>
\hline
\end{tabular} よo publication of monographs/films based on scholarly research publish papers and reviews; of mounted by other bureaus; and plan and produce the annual Festival festival will continue to multitude of ethnic groups in American material culture the activities and resources 1 expenses for supplies and materials results in modest increases in

 may be developed on various art, history, and science subjects
 s a news service project for young people which would be his is ops, to be in place and
 design public service educational programs, symposia and seminars. Three major projects will require most of the
Office's resources in the next decade: (1) encouraging Smithsonian cooperation with research centers, colleges, and
universities to improve Americans' understanding of other societies and cultures, especially in the context of the
Smithsonian's new South Quadrangle International Center; (2) serving as part of a national and international network
of educators to help commemorate the two hundredth anniversary of the U.S. Constitution and Bill of Rights; and (3)
designing international functions commemorating the five hundredth anniversary of Columbia's expedition to the New
World.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{SPECIAL PROGRANS} \& \multicolumn{2}{|l|}{FY 1984} \& \multicolumn{2}{|l|}{FY 1985} \& \multicolumn{2}{|l|}{FY 1986} \& \multicolumn{2}{|l|}{FY 1987} \& \multicolumn{2}{|l|}{FY 1988} \& \multicolumn{2}{|l|}{FY 1989} \& \multicolumn{2}{|l|}{FY 1990} \\
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\hline AMERICAN STUDIES \& FOLKLIFE PROGRAM \& \& \& \& \& \& \& \& \& \& \& \& \& \& \\
\hline \begin{tabular}{l}
FEDERAL SALARY \& EXPENSES \\
UNRESTRICTED GENERAL \\
-PROGRAM \& ADMINISTRATIVE \\
- AUXILIARY ACTIVITY \\
UNRESTRICTED SPECIAL PURPOSE \\
-BUREAU ACTIVITY \\
-ALL OTHER \\
RESTRICTED \\
FEDERAL GRANTS \& CONTRACTS
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\begin{array}{r}
689 \\
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\hline -SU8TOTAL \& 19 \& 1640 \& 21 \& 1900 \& 22 \& 1896 \& 28 \& 2028 \& 29 \& 2172 \& 29 \& 2205 \& 29 \& 2240 \\
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\hline -SUBTOTAL \& 8 \& 469 \& 9 \& 667 \& 9 \& 75* \& 10 \& 507 \& 10 \& 512 \& 10 \& 516 \& 10 \& 521 \\
\hline OFFICE OF SYMPOSIA \& SEMINARS \& \multirow[t]{2}{*}{} \& \& \& \& \& \& \& \& \& \& \& \& \& \\
\hline \begin{tabular}{l}
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- AUXILIARY ACTIVITY \\
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- BUREAU ACTIVITY \\
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FEDERAL GRANTS \& CONTRACTS
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\hline -SUBTOTAL \& 4 \& 340 \& 5 \& 263 \& 5 \& 268 \& 5 \& 301 \& 5 \& 291 \& 5 \& 301 \& 5 \& 311 <br>
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\end{tabular}

The Office will continue to administer the Institution's fellowship programs and Since 1979, most of these activities have been supported with The funding projected will allow for an approximate thirty percent growth in the number of awards and appropriate increases in the
stipends. Increases are also planned for the Regent's Fellowship program (shown separately below). In addition,
through the Office the Institution provides opportunities for minority students via the cooperative education and
internship program; this effort will grow as appropriate funding materializes. The office will continue to manage the
Institution's Foreign Currency Program. While these funds are not considered as part of the Institution's federal
operating appropriation, projections call for funding levels of $\$ 7,500,000$ equivalent in FY 1986 (to continue the
grant program at $\$ 4,000,000$ equivalent, $\$ 2,759,000$ equivalent to fund the forward reserve of the American Institute of
Indian Studies, and $\$ 1,000,000$ equivalent for the U.S. contribution to the Moenjodaro restoration project); $\$ 2,000,000$ equivalent is projected for the grant program in FY 1987-90
International. Environmental Science Program (IESP). Long-term environmental data collection and research, supported through IESP, will continue at two permanent sites, the Smithsonian's Environmental Research Center and the Tropical Research Institute. In FY 1986, plans call for a data monitoring and collection site in the Montane tropical rain forest in Chiriqui, Republic of Panama. During FY 1987-1990 additional sites are contemplated for Latin America and South Asia. Additional funding will be used to provide extensive training for foreign collaborators at Smithsonian facilities and in the host countries.

| SPECIAL PROGRAMS | FY 1984 |  | FY 1985 |  | Fr 1986 |  | FY 1987 |  | FY 1988 |  | FY 1989 |  | FY 1990 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\left\lvert\, \begin{gathered} \text { FT } \\ \text { ENHL } \end{gathered}\right.$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ E M P L \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ | $\begin{gathered} \text { FT } \\ \text { EMPL } \end{gathered}$ | $\begin{gathered} \$ \\ (000) \end{gathered}$ |
| Office of fellowships \& Grants |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FEDERAL SALARY \& EXPENSES <br> UNRESTRICTED GENERAL <br> -PROGRAM \& ADMINISTRATIVE <br> - auxiliafr activity <br> UNRESTRICTED SPECIAL PURPOSE <br> -bureau activity <br> -ALL OTHER <br> RESTRICTED <br> FEDERAL GRANTS \& CONTRACTS | 11 1 0 0 0 0 0 | $\begin{array}{r} 314 \\ 70 \\ 0 \\ 0 \\ 1079 \\ 18 \\ 0 \end{array}$ | 11 3 0 0 0 0 0 | $\begin{array}{r} 328 \\ 123 \\ 0 \\ 0 \\ 1450 \\ 65 \\ 0 \end{array}$ | 11 3 0 0 0 0 0 | $\begin{array}{r} 328 \\ 124 \\ 0 \\ 0 \\ 1711 \\ 65 \\ 0 \end{array}$ | 11 3 0 0 0 0 0 | $\begin{array}{r} 328 \\ 128 \\ 0 \\ 0 \\ 2015 \\ 65 \\ 0 \end{array}$ | 11 3 0 0 0 0 0 | $\begin{array}{r} 328 \\ 132 \\ 0 \\ 0 \\ 2300 \\ 15 \\ 0 \end{array}$ | 11 3 0 0 0 0 0 | $\begin{array}{r} 328 \\ 136 \\ 0 \\ 0 \\ 2525 \\ 15 \\ 0 \end{array}$ | 11 3 0 0 0 0 0 | 328 140 0 0 0 2720 15 0 |
| -subtotal | 12 | 1481 | 14 | 1966 | 14 | 2226 | 14 | 2536 | 14 | 2835 | 14 | 3004 | 14 | 3203 |
| REGENT'S FELLOWSHIPS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL <br> -PROGRAM \& ADMINISTRATIVE <br> -AUXILIARY ACTIVITY <br> UNRESTRICTED SPECIAL PURPOSE <br> -bureau activity <br> -ALL OTHER <br> RESTRICTED <br> FEDERAL GRANTS \& CONTRACTS | 0 0 0 0 0 0 0 | 0 0 0 0 130 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 130 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 140 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 145 0 0 | 0 0 0 0 0 0 0 | 0 0 0 150 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 155 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 160 0 0 |
| -subtotal | 0 | 130 | 0 | 130 | 0 | 140 | 0 | 145 | 0 | 150 | 0 | 155 | 0 | 160 |
| INTERNAT'L ENVIRONMENTAL SCIENCE PROGRAM |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL <br> -PROGRAM \& ADMINISTRATIVE <br> -auxiliary activity <br> UNRESTRICTED SPECIAL PURPOSE <br> - BUREAU ACTIVITY <br> -ALL OTHER <br> RESTRICTED <br> FEDERAL GRANTS \& CONTRACTS | 13 0 0 0 0 0 0 | 681 0 0 0 0 0 0 | 13 0 0 0 0 0 0 | 712 0 0 0 0 0 0 | 13 0 0 0 0 0 0 | 712 0 0 0 0 0 0 | 14 0 0 0 0 0 0 | 797 0 0 0 0 0 0 | 14 0 0 0 0 0 0 | 850 0 0 0 0 0 0 | 14 0 0 0 0 0 0 | 952 0 0 0 0 0 0 | 14 0 0 0 0 0 0 | 1029 0 0 0 0 0 0 |
| -subtotal | 13 | 681 | 13 | 712 | 13 | 712 | 14 | 797 | 14 | 850 | 14 | 952 | 14 | 1029 |

beginning in FY 1979 with appropriation of $\$ 500,000$ in the Institution's history. No funding increases
of documenting incoming objects, and automating various
been used inventory e first complete collection record systems throughout the Institution.
ction Management/Inventory Program. great. records, maintaining a stable amount or efrort to keep These trust funds support for minorities and the Some increase in funding is good fashion. variety of institutional. activities such as purchase of special collections, workshops handicapped, educational conference and products, and meritorious research projects. projected if the Institution's revenue generating activities continuc to perform in Trends portrayed for 1980 through $F Y 1990$ reflect plans to meet the full opcrating and The request for $F Y 1986$ contains $\$ 4,200,000$ to complete the storage system for the the space Installation of this second part of the storage system which will accommodate futurc collections growth and meet other critical storage needs is projected for the period FY 1987-FY 1990. After 1985, annual operating funds for ane projected to to support the physical transfer of collections from museums to the are projected through ry 1987 , with somewhat less needed through FY 1989. Funds for operational costs of program units which are involved in MSC are included in the appropriate bases of the units. Utilities are included in the Facilities Serviccs chapter, along with security,

Special Exhibitions Program. FY 1985 and the federal resources are included in the base figures for the Museum of American

Office of Membership and Development (OMD). The Office serves as the focus for fund raising activities of the Institution
Smithsonian Magazine. Expenditures are expected to increase substantially due to continued cost increases associated with publication. Demand should remain strong, and Magazine will continue to operate and produce a surplus for
hrough membership and advertising sales
casted for contributing membership, travel, and lecture and
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Museum Shops. The Muscum Shops plan to renovate several existing shops and to build others. There is an expanded shop in a new location in the National Museum of American History and refurbished shops are planned in the National Museum of The renovations are intended to improve customer services The Museum Shop in the National Museum of African Art will move to the new will continue to exploit technological advances in their operations.
BUSINESS MANAGEMENT

[^1]A re-invigorated Product Licensing program is expected to grow and to Natural History and in the National Air and Space Museum. Quacility when it is ready. Overall, the Museum Shop retail management and will aim for increasing professionalism in
Projections for concessions and food service activity have been combined to reflect the Renovation of the restaurant facility in the five-year period. A restaurant addition A concessions manager has been hired to in FY 1985. ian parking facilities other than periodic rate increases if

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{BUSINESS MANAGEMENT} \& \multicolumn{2}{|l|}{FY 1984} \& \multicolumn{2}{|l|}{FY 1985} \& \multicolumn{2}{|l|}{FY 1986} \& \multicolumn{2}{|l|}{FY 1987} \& \multicolumn{2}{|l|}{FY 1988} \& \multicolumn{2}{|l|}{FY 1989} \& \multicolumn{2}{|l|}{FY 1990} \\
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\hline \multicolumn{15}{|l|}{CONCESSIONS} \\
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-PROGRAM \& ADMINISTRATIVE \\
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-BUREAU ACTIVITY \\
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FEDERAL GRANTS \& CONTRACTS
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\hline -SUBTOTAL \& 1 \& 395 \& 8 \& 150 \& 1 \& 150 \& 1 \& 150 \& 1 \& 150 \& 1 \& 150 \& 1 \& 150 \\
\hline \multicolumn{15}{|l|}{PARKING OPERATIONS} \\
\hline \begin{tabular}{l}
FEDERAL SALARY \& EXPENSES UNRESTRICTED GENERAL \\
-PROGRAM \& ADMINISTRATIVE \\
- AUXILIARY ACTIVITY \\
UNRESTRICTED SPECIAL PURPOSE \\
- bureau activity \\
-ALL OTHER \\
RESTRICTED \\
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625
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0 <br>
\hline -SUBTOTAL \& 17 \& 475 \& 17 \& 540 \& 17 \& 560 \& 17 \& 575 \& 17 \& 590 \& 17 \& 610 \& 17 \& 625 <br>
\hline \multicolumn{15}{|l|}{BUSINESS MANAGEMENT-SUMMARY} <br>

\hline | FEDERAL SALARY 8 EXPENSES UNRESTRICTED GENERAL |
| :--- |
| -PROGRAM \& ADMINISTRATIVE |
| - auxiliary ACTIVITY |
| UNRESTRICTED SPECIAL PURPOSE |
| - BUREAU ACTIVITY |
| -ALL OTHER |
| RESTRICTED |
| FEDERAL GRANTS 8 CONTRACTS | \& \[

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\hline -TOTAL. \& 233 \& 22850 \& 240 \& 24510 \& 245 \& 27595 \& 250 \& 29925 \& 253 \& 31950 \& 258 \& 34065 \& 261 \& 36090 <br>
\hline
\end{tabular}

Central Management Offices. This planning period sees the arrival of a new Secretary of the Institution. His plans and oing
programsies, the central management offices will continue to be heavily involved in bringing the Quadrangle project to fruition. These offices also will emphasize the supervision of administrative and support functions to enhance their responsiveness and quality performance. office automation systems will be extended and integrated to increase interoffice efficiencies. Another concern of central management over the planning period is the strengthening of the Institution's equal opportunity and affirmative action programs. Continued strong attention will be given to legal oversight of and counseling on the Smithsonian's activities and to improvement of financial management and internal control systems. The office of Management and Budget, Congress, and other organizations will be kept informed of plans, programs, and requirements. Capital improvement, safety, and health programs will be planned, implemented,
ontored or effectiveness. attributable to the requirements of legal counsel.
$\frac{\text { Specialized Administrative and Technical offices. Work of major importance over the planning period includes the imple- }}{\text { mentation of new computer systems for payroll/personnel, bibliographic, collections management, research, and }}$
financial management purposes. Implementation of new Federal Acquisition Regulations for government procurement and contracting will continue. Equal opportunity and affirmative action efforts will encourage closer working relationship among hiring units, personnel, and equal opportunity offices and improve the representation of women and disabled persons will be emphasized. The management of benefits programs for employees will be consolidated for improved communications and service. 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 Continued progress will be
the photograph
photographs, applying videodisc techibitions, and other developments
lill be provided to the public in informative and interesting ways. The International Exchange Service will continue for the present. Support will be given to operations in new facilities including the Museum Support Center, the

Ovell resources expected in $F Y 1900$ g secinlized administrative and technical services amount to $\$ 18,701,000$, and 396 staff. 0ver the planning period, additional. resources are forecast for the implementation of computer systems, mainframe conversion, and office automation.

Additional staff and funds are required for increased workloads, internal controls, and support for new facilities.

During the planning period, work will continue to make operational the Museum Support Center, the New facilities for the
nce and upgrading program for will be enhanced by the and the installation of an
 plant, and security staffing
table 13 (2)


## APPENDIX II

## SMITHSONIAN OPERATING RESOURCES FY 1975 - FY 1990 IN CONSTANT 1984 DOLLARS

This appendix eliminates inflation from the projected funding levels for FY 1985 through FY 1990 in the Prospectus and compares the resulting real (constant dollar) growth for this period to that experienced in previous years. Chart A displays resources of the Institution in constant 1984 dollars, or current purchasing power. Information for FY 1970, 1975, and 1980 is included for comparative purposes. Table 14 sets forth 1985 and 1990 financial resources by source of funds, in both actual as well as constant 1984 dollars. Federal fund estimates for FY 1985-90 have been discounted in accordance with inflation indices provided in the summer of 1984 by the Office of Management and Budget; and, in a similar fashion, trust fund estimates have been discounted by a factor of 3 percent computed cumulatively, a figure that units were instructed to use when materials were being assembled for the Institution's budget planning reviews. For FY 1970, 1975 and 1980, resources were inflated to 1984 constant dollars based on the Consumer Price Index.

## FY 1975 - FY 1985

In constant FY 1984 dollars, real growth from FY 1975 to FY 1985 is expected to amount to some $\$ 106$ million, (or $48 \%$ ), of which $\$ 84$ million is attributable to nonappropriated trust funds, and $\$ 30$ million to Federal appropriations. Offsetting these increases is a decline in Federal Grant and Contract support of some $\$ 8$ million when expressed in constant dollars. The majority of the growth in nonappropriated trust funds ( $\$ 84$ million) is generated by the Institution's revenue producing activities and results from expanded Associate programs, primarily the Smithsonian magazine, expanded museum shop operations, and new activities including mail order, parking and the direct mail and recording activities of the Smithsonian Press. In addition, over $\$ 1.4$ million in real growth during this period occurs from investment income, while gifts and foundation grants are expected to remain virtually unchanged. After adjusting for expenses of the auxiliary and bureau activities, net real income provided from all nonappropriated trust fund sources is anticipated to grow by almost $\$ 13$ million.

In Federally funded activities, real growth over this period is primarily associated with the major new facilities, the Museum Support Center, the National Museum of African Art, and also includes new and expanded activities such as the Tropical Research Institute with its custodianship responsibilities resulting from the Panama Canal Treaties, the collections inventory program, information automation, library and archival programs, research support and equipment replacement, installation of a proprietary alarm system, and architectural and engineering services for increased renovation and restoration requirements.

## FY 1985 - FY 1990

As detailed in earlier sections of the Prospectus, an increase in gross revenues of over $\$ 162$ million is projected for the period from FY 1985 FY 1990. Of this increase, some $\$ 91$ million is required to cover inflationary increases in salaries, utilities, rent, supplies, equipment, and other goods, leaving some $\$ 71$ million in anticipated real growth. Federal appropriations account for about $\$ 53$ million, or 74 percent of the projected constant dollar growth. Much of this growth is associated with operational aspects of the new Quadrangle facility and programmatic activities to be located in the facility including the International Center, the Sackler Gallery and the Museum of African Art. Substantial increases are also projected for research, scientific equipment replacement, conservation, collections management, systems automation, and library needs.

Anticipated real growth in gross revenues of nonappropriated trust funds will amount to over $\$ 19$ million, all of of which is attributable to auxiliary and bureau activities. After deduction of expenses incurred in generating these revenues, net income expressed in constant dollars will remain virtually level.

Federal grant and contract support, which will increase substantially over much of the period, is anticipated to decline by 1990 in terms of real dollars ( $\$-1.4$ million), reflecting completion of several large contracts projected for the Astrophysical Observatory.

# Smithsonian Institution Operating Funds - In Constant 1984 Dollars 

 Fiscal Years 1970, 1975, 1980, 1985, 1990

## SMITHSONIAN OPERATING FUNDS

Fiscal Years 1985 and 1990 in Actual and Constant 1984 Dollars

| FY 1985 | FY 1990 |
| :---: | :---: | :---: |
| Actual Con- |  |
| stant \$'s |  |

## FUNDS PROVIDED

| Federal Appropriation - S\&E | 173,582 ${ }^{\text {I/ }}$ | 168,003 | 289,171 | 221,280 |
| :---: | :---: | :---: | :---: | :---: |
| Federal Grants and Contracts | 16,445 | 15,968 | 17,429 | 14,606 |
| Nonappropriated Trust Funds: |  |  |  |  |
| Investments | 6,844 | 6,646 | 8,145 | 6,826 |
| Gifts and Miscellaneous | 10,576 | 10,269 | 8,455 | 7,085 |
| Auxiliary and Bureau Ac- |  |  |  |  |
| tivities Revenues (Gross) | 123,759 | 120,170 | 170,480 | 142,862 |
| Less Related Expenses | $(106,490)$ | (103,402) | (147,129) | $(123,294)$ |
| Auxiliary and Bureau Activities Net Revenue | 17,269 | 16,768 | 23,351 | 19,568 |
| Total Nonappropriated Trust Funds: |  |  |  |  |
| -Gross | 141,179 | 137,085 | 187,080 | 156,773 |
| -Net | 34,689 | 33,683 | 39,951 | 33,479 |
| Total Operating Funds Provided: |  |  |  |  |
| -Gross | 331,206 | 321,056 | 493,680 | 392,659 |
| -Net | 224,716 | 217,654 | 346,551 | 269,365 |

1/ Includes effects of anticipated pay raises in January 1985.

## APPENDIX III

## EXAMPLES OF COLLECTIONS RELATED RESEARCH

The results of curatorial research on the collections in the Freer Gallery of Art are most visible in exhibitions. However, additional research made available to the public can be found in collections research records, in lectures, and in published papers and books. Specifically, areas of research in Japanese art include an ongoing study of porcelains, the study of the influences of Korean slip-gazed ceramics on Japanese ceramics and on the economics of ceramic production in Edo-period Japan, with special interest in daimyo-descended kilns and Kyoto potteries. Research on late Edo-period drawings including those by Hokusai on Edoperiod lacquer, on medieval narrative painting and on artistically decorated fans.

In the areas of Chinese art, research continues on Chinese painting spanning the Sung dynasty (960-1279) through the Ch'ing dynasty (1644-1912) and on calligraphy (an exhibition is planned for 1985 on Chinese Calligraphy). Also, results from recent archaeological discoveries in the People's Republic of China has contributed to new research on similar objects in the Freer.

The Technical Laboratory of the Freer Gallery of Art is renowned for its research activities, some of which evolve out of the ongoing conservation and restoration of objects in the collection. Research includes lead-isotope ratios in Chinese bronzes and colors of the copper-tin-lead alloy system, lead-isotope ratios in Oriental pigments, examination and analysis of Islamic metalwork in the collection for a catalogue of an exhibition scheduled for FY 1985. Also, a study of American pastels and watercolors using infrared photography was recently begun.

Additional technical research included the completion of the survey of pigments on Japanese Ukiyo-e paintings in the Freer; this is now being reviewed for publication. A detailed study of certain unidentified green pigments on these paintings is being continued.

Curators at the National Museum of American Art are researching two groups of works recently acquired by transfer: paintings, drawings, and sculptures by black American artists of the 19th century, formerly in the National Museum of African Art; and approximately 1,500 photographs of contemporary life in America, Europe and the Orient, received from the National Endowment for the Arts and created under their Visual Arts Program. Studies of these objects will continue beyond exhibitions and publications scheduled for 1984 and 1985.

Staff endeavors have been directed also towards works long held in the collection, such as paintings by Alice Pike Barney. Studies of the Museum's collection of over four-hundred miniatures will culminate in a series of exhibitions to be initiated in 1985 and spanning several years. Curators have completed research on more than one-hundred of the Museum's most
outstanding works of sculpture and painting, ranging from the late 18 th century to the 1970's. An exhibition featuring these highlights of the permanent collections will tour the country in 1985 to 1987, accompanied by a publication.

At the National Portrait Gallery, research in the general field of caricature in American portraiture is going forward; a number of original caricature drawings and paintings by Miguel Covarrubias have been located and will be shown in the first retrospective of this artist's work. There will be a catalogue with a newly-researched biographical study of the artist. Work is now underway on new art-historical studies of Joseph Wright (late 18 th century New Jersey painter), James Earl, Chester Harding, and William Edward West; in each case an exhibition and scholarly catalog is being prepared. Considerable research in the Gallery's new acquisitions is a normal part of the NPG staff's work; special attention this year has been given to the Degas painting of Mary Cassatt, the sculpture of John Frazee, and graphic representations of the leaders of the Confederacy.

At the Cooper-Hewitt Museum, permanent collection items are usually not on view except in the context of temporary exhibitions. Collection research, therefore, frequently supports and relates with the Museum's outstanding and varied schedule of special, thematic shows. In the recent past, for instance, textiles research has been designed around two unprecedented showings of the Cooper-Hewitt's large holdings in the areas of lace and embroidered samplers; a future study of printed fabrics will similarly combine preparatory and technical research with an exhibition product. In the decorative arts department, exhibits will require cataloguing and collections research in the areas of wine manufacture and consumption, marine life forms, modern uses of plastic and other synthetic materials, and traditional iconographical representations of the four continents (i.e., Europe, Asia, Africa, and America).

Additionally, research continues on the drawings of the French architect Gilles-Marie Oppenord, many of which are represented in the collection. This will result in an eventual monograph. The Museum's Masters Degree Program in the history of the decorative arts also presents annual opportunities to plan and execute directed research by graduate stuḍents in various areas of the collections. Such work may lead to a thesis, an exhibition, and/or a separate publication.

The National Museum of Natural History, with its vast collections of biological and mineral specimens and other artifacts, is a world leader in collection-oriented research. Most of the numerous research projects carried on by more than one hundred staff scientists involve the study of collections at some point, and many of the projects could not be done without the collections. A small sample of the numerous examples are cited here. In anthropology, some 300 skeletons with significant pathological features are being studied for the medical knowledge they can reveal about the manifestations of disease in skeletons. The results will yield new insights into the history of disease. The Museum's Registry of Tumors in Lower Animals, which has 5,000 specimens of fish, shellfish, and other animals with various types of tumors, is the world's only clearing house for
information on cancerous growths in these animals. The increasing numbers of cancerous tumors being found in fish and shellfish living in chemically polluted waters underscore the importance of this collection.

The unique collection of fossil bird remains is a crucial resource for the ongoing studies of newly found bird fossils on oceanic islands. Without the exiting collection, comparisons could not be made, the new finds could not be identified, and evidences for extinct bird faunas on these islands could not be evaluated. Botanists have recently completed major treatises on the begonias of the neotropics and the grasses of southern Brazil. Both studies have great economic importance, and neither could have been done without the Museum's large collection of plant specimens. This herbarium also provided vital specimens of pollen for comparisons with "Yellow Rain" samples from Southeast Asia, conducted with the aid of the electron microscope.

Geologists have been using the recent collections of meteorites from Antarctica to gather data for the science of palentology. Drill cores from the Nile Delta are being studied to document the recent geological history here and to chart the Delta's erosion, which has increased alarmingly since the construction of the Aswan Dam. This could have dramatic effects on Egyptian agriculture. In paleobiology, microfossils collections are providing a basis for studying the geological history of the Mediterranean Basin.

Staff at the National Air and Space Museum use artifacts as historical evidence to illuminate events, issues, and methods in technological development and scientific research. In the process of restoration of the Northrop N1M Flying Wing, restorers observed that the two halves of the aircraft appeared to be built by different persons. An inquiry of the pilot revealed that the airplane had crash-landed, and one side had been rebuilt from scratch--a historical episode of significance that documents did not cite. A pioneering infrared telescope developed at the California Institute of Technology, now in the astronomical collection of the Museum, was built of epoxy and aluminum. The artifact, complemented by an oral history interview, revealed an important, innovative construction technique that was invented to reduce thermal deformations of the collecting mirror. A recent article in Technology and Culture traced the introduction in the 1930's of flush rivets to reduce frictional drag of aircraft, citing as evidence several airplanes in the NASM collections. These examples are among dozens of unique historical insights that routinely derive from study of the collection. During restoration of aircraft, engines and accessories, the museum supports research on materials and methods of manufacture in order to document aircraft design, fabrication, and the general industrial technology associated with the time.

In geophysical science, museum scientists are comparing hand-held manned space flight photographs of Earth from Gemini and Apollo flights with recent images from the Space Shuttle, attempting to observe changes in surface features such as shifting sand dunes. Museum scientists, working jointly with researchers at SAO and the USGS, are processing images of Jupiter's moon Ganymede, which were taken by the Voyager space craft during its 1979 flyby, to create a geologic map of the entire satellite. These images are part of the collections of the Museums.

In the collections of the National Museum of American History, studies are being conducted in dynamos and motors of the the turn of the century designed by the inventor, Elihu Thompson; the studies are directed at establishing evidence of personal style in the design of these objects. The manufacture and use of American calculating machines are being studied with particular attention to the relationship between developments in mathematical computation and mechanical technology. In addition, computer development and computer controlled automation are being studied, particularly with regard to effects on labor, employment and the quality of the work environment. Also, research is being done on the medical instruments collection, with emphasis on their evolution and use in the treatment of women.
SMITHSONIAN INSTITUTION

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SMITHSONLAN INSTITUTION LIBRARIES


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[^0]:    Appendix II presents a summary of areas of operations incorporating inflationary effects into the projections, and converting institutional resource growth into constant FY 1984 dollars.

[^1]:    knowledge of Smithsonian collections and activities will be emphasized.
    generate significant new income for the Institution. Educational toys and other products which will increase public

